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MARVIN J SONOSKY (1909-1997)

Mr. William Yellowtail Regional Administrator, Region 8 U.S. Environmental Protection Agency 999 18th Street, Suite 500 Denver, Colorado 80202

Dear Mr. Yellowtail:

We serve as general counsel to the Assiniboine and Sioux Tribes of the Fort Peck Reservation ("Fort Peck Tribes" or "Tribes"). We write to request that the Environmental Protection Agency ("EPA") take immediate action pursuant to the Safe Drinking Water Act ("SDWA") to address groundwater contamination on the Fort Peck Indian Reservation ("Reservation").

The area that is subject to this request is: (a) the study area that is the subject of the United States Geological Survey ("USGS") report entitled Saline Water Contamination in Quarternary Deposits and the Poplar River, East Poplar Oil Field, Northeastern Montana (U.S. Geological Survey Water-Resources Investigations Report 97-4000) ("Report," attached hereto as Exhibit 1); and (b) the area to which the contamination has migrated or may migrate in the future as a result of groundwater movement. See Report at 25-28. The study area includes the East Poplar Oil Field ("Field") and an additional 40 square miles around the Field. Report at 2. We refer to this area below as either the "study area" or the "area in and around the Field."

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As we set forth in greater detail below, contaminants, including chloride and dissolved-solids are present in, entering, and are likely to continue to enter the Quaternary deposits in and around the Field. As a result of groundwater movement, these contaminants are also migrating to areas that are not now contaminated. The Quaternary deposits are an underground source of drinking water as defined by 40 C.F.R. §144.3 and supply drinking water to persons living in and around the Field and to the public water system in the City of Poplar. The presence and entry of such contaminants in the Quaternary deposits may present an imminent and substantial endangerment to the health of persons, and appropriate State and local authorities (if any) have not acted to protect the health of such persons.

Accordingly, we request that the EPA take immediate action under Section 1431(a) of the SDWA, 42 U.S.C. §300i(a), to protect the health of such persons, including but not limited to: (1) stopping all further contamination of the Quaternary deposits from active sources in and around the Field; (2) stopping the migration of contaminants into uncontaminated areas and any other underground sources of drinking water on the Reservation, and preventing the migration of such contaminants into the public water system in the City of Poplar; (3) seeking appropriate relief against the person or persons who caused or contributed to the contamination, including but not limited to injunctive relief to prevent further contamination; (4) requiring remediation of the effects of the contamination that has occurred, wherever it has occurred; (5) seeking on behalf of the Tribes compensatory damages for harm caused by the person or persons who caused or contributed to the contamination, restitution, and punitive and exemplary damages to the extent permitted by law.<sup>2</sup>

No owner or operator shall construct, operate, maintain, convert, plug, abandon, or conduct any other injection activity in a manner that allows the movement of fluid containing any contaminant into underground sources of drinking water, if the presence of that contaminant may cause a violation of any primary drinking water regulation under 40 CFR part 142 or may otherwise adversely affect the health of persons.

In these circumstances, EPA is required to take action to prevent further contamination. See 40 C.F.R. § 144.12(b). We assert these SDWA violations as an additional ground for the request

<sup>&</sup>lt;sup>1</sup> The companies involved in production activities in the study area are listed in the Report. <u>Id</u>. at 8.

The contaminating activities that are the subject of this request also violate the SDWA minimum requirements for underground injection programs promulgated by EPA pursuant to 42 U.S.C. § 300h(b). Specifically, it is apparent that owners and/or operators in the Field have violated 40 C.F.R. § 144.12(a) which provides that:

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A. The Contamination of the Area in and Around the East Poplar Oil Field and the Migration of the Contamination as a Result of Groundwater Movement.

The Report sets forth the results of an extensive USGS investigation of saline-water contamination in and around the Field. To complete the investigation USGS reviewed existing data on water wells, monitoring wells, oil wells, brine-injection wells and ground and surface water quality. Report at 8-9; see also Hydrologic Data for the East Poplar Oil Field, Fort Peck Indian Reservation, Northeastern Montana (U.S. Geological Survey Open File Report 95-749) ("Report 95-749") attached hereto as Exhibit 2. The USGS also undertook substantial additional data collection efforts, including the completion of an electromagnetic geophysical survey, the installation of 27 monitoring wells, and the collection of groundwater data from over 100 wells. Report at 8-9; Report 95-749 at 5, 8-9.

The Fort Peck Tribes have also collected information concerning the contamination, both to supplement the Report and address questions raised by the EPA in a letter dated October 23, 1997 from the Director, Technical Enforcement Program, Office of Enforcement, Compliance, and Environmental Justice, Region VII to Mary J. Pavel of our office.<sup>3</sup> The information collected by the Tribes is described below and set forth on exhibits that are attached to this letter.

Contamination in the study area was described by USGS using four water-types. Type 1 water is not significantly contaminated and is similar to water in Quaternary deposits on other parts of the Reservation. Report at 16. Type 2 water contains dissolved-solids and chloride concentrations of from 1,170 to 8,860 mg/L and 330 to 4,800 mg/L, respectively, and was considered by USGS to be moderately contaminated. Id. Type 3 water has concentrations of dissolved-solids from 10,100 to 91,100 mg/L and of chloride from 5,200 to 58,000 mg/L, and is considered by USGS to be considerably contaminated Id. Both Type 2 and 3 water contain concentrations which exceed the Secondary Drinking Water Standards for dissolved-solids and chloride, which are 500 mg/L and 250 mg/L respectively. 40 C.F.R. §143.3. Type 4 water represents the actual brine as injected in the Field. Id. Its chemical composition is sodium chloride. Id. It has dissolved-solids concentrations that range from 47,700 to 201,000 mg/L and chloride concentrations of from 27,000 to 120,000 mg/L. Id.

set forth in this letter.

<sup>&</sup>lt;sup>3</sup> EPA's October 23, 1997 letter indicated that additional information would be necessary in order for EPA to take action with regard to the Mesa Biere A-1 salt water disposal ("SWD") well. By this letter, we provide such information, renew our earlier request, and request that EPA take action in accordance with the more extensive request made by this letter.

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1. Lateral Extent of Contamination: The lateral extent of contamination in the Quaternary deposits was determined by USGS using water quality data from existing wells, data from the electromagnetic geophysical survey, and data from monitoring wells installed by USGS after the electromagnetic survey was completed. Report at 21. The Report defined the contaminated groundwater plumes as either Type 2 or Type 3, depending on the type of water found in wells completed within the plume. This work showed that the lateral extent of the contamination may be as much as 12.4 sq. mi. Id. at 22. The contaminated areas in and around the Field are shown on Plate 3 attached to the Report.

Three Type 3 saline-water plumes were confirmed in the study area. <u>Id</u>. at 23. The USGS considered a Type 3 plume to have been confirmed if its presence was both identified by high electromagnetic apparent conductivity readings and verified by analysis of water samples from wells located in the plume.<sup>4</sup> <u>Id</u>. at 22. These plumes contaminate an area that may be as much as 2.0 sq. mi. <u>Id</u>. at 23. The southern-most of the three confirmed Type 3 plumes has an area of .9 sq. mi. The Report describes this plume as follows:

The southern-most confirmed Type 3 saline-water plume has an area of 0.9 mi<sup>2</sup> and is located in the central and southern parts of sec. 21, the southwestern part of sec. 22, the northwestern part of sec. 27, and the northern part of sec. 28, T.28 N., R.51E. Water from two monitoring wells (FPB93-3 and FPB93-3A in this plume) completed in the top and the bottom of the saturated glacial deposits is Type 3 with chloride concentrations equal to or greater than 35,000 mg/L; water from two domestic wells (M-28 and M-31) completed in this plume is Type 3 with chloride concentrations equal to 7,900 mg/L and equal to or greater than 22,000 mg/L, respectively.

<u>Id</u>. In addition, possible Type 3 plumes covering an area of 3.2 sq. mi. were identified, meaning that the electromagnetic survey indicated the presence of a Type 3 plume, but that lack of water wells in the area prevented confirmation of this conclusion. <u>Id</u>.

<sup>&</sup>lt;sup>4</sup> Electromagnetic geophysical methods were used to map the distribution of contaminants in the study area. Report at 16-21. An electromagnetic geophysical survey "measure[s] the cumulative electrical conductivity of the soil and water matrix." <u>Id.</u> at 16. The unit of measurement used to report such conductivity is millimho per meter (mmho/m). <u>Id.</u> The correlation between conductivity and saline-water contamination is based in part on the higher conductivity of water with large concentrations of dissolved-solids. <u>Id.</u> at 18. This correlation is explained in the Report at pages 16-18. Table 3 of the Report shows the correlation between electromagnetic apparent conductivity and the three water types used in the Report. <u>Id.</u> at 17. Electromagnetic conductivity readings of greater than 50 mmho/m and greater than 70 mmho/m were considered high. Report at 17, Table 3.

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The USGS confirmed four Type 2 saline-water plumes in the study area, meaning that moderate electromagnetic conductivity readings<sup>5</sup> delineating the plume as Type 2 were confirmed by analysis of samples from water wells within the plume. These plumes contaminate an area of 5.3 sq. mi. <u>Id</u>. at 22. In addition, possible Type 2 contamination -- again, a lack of water wells prevented confirmation -- was identified over an additional 1.9 sq. mi.

2. <u>Vertical Extent of Contamination</u>: The vertical extent of salt-water contamination in the Quaternary deposits was estimated based on water quality information from monitoring wells and private wells completed in the contaminated plumes. Report at 24. Three sets of monitoring wells, each containing a deep well and a shallow well completed in the Quaternary deposits, were used for this purpose. <u>Id</u>. With regard to the first two sets of monitoring wells the USGS described the results of this analysis as follows:

The vertical extent of a confirmed Type 3 contamination plume in T.29 N., R. 51 E., is delineated by two sets of wells located along the northern part of the plume. In the first set of wells, the deeper well FPB92-2A is 46 ft. deep and is perforated at 31-41 ft below land surface, at the base of the alluvium, the shallower well, FPB92-2B was 27 ft. deep and was perforated at 12-22 ft. below land surface, within the top of the saturated alluvium (this well is now destroyed; Thamke and others, 1996, table 3). Water sampled from well FPB92-2A in July 1993 was Type 3 and had a dissolved-solids concentration of 46,100 mg/L, a chloride concentration of 35,000 mg/L, a density of 1.051 g/mL, and a specific conductance of 102,000  $\mu$ S/cm. Water sampled from well FPB92-2B during initial well development in September 1992 had a specific conductance of 17,600  $\mu$ S/cm. In the second set of wells, the deeper well FPB92-1 is 53 ft. deep and is perforated at 38-48 ft. below land surface, within the base of the alluvium; the shallower well, FPB93-2 is 27 ft. deep and is perforated at 18-27 ft. below land surface, within the top of the saturated alluvium. Water sampled from well FPB92-1 in July 1993 was Type 3 and had a dissolvedsolids concentration of 91,100 mg/L, a chloride concentration of 58,000 mg/L, a density of 1.060 g/mL, and a specific conductance of 127,000 µS/cm. Water sampled from well FPB93-2 in July 1993 was Type 2 and had a dissolved-solids concentration of 6,450 mg/L, a chloride concentration of 3,200 mg/L, a density of 1.004 g/mL, and a specific conductance of 12,300  $\mu$ S/cm.

<u>ld</u>.

<sup>&</sup>lt;sup>5</sup> Electromagnetic conductivity readings of greater than 40 mmho/m and greater than 60 mmho/m were considered moderate. Report at 17, Table 3.

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The third set of these wells, FPB93-3 and FPB 93-3A, is located in the southern-most confirmed Type 3 plume in the study area. The USGS reported the following with regard to water quality from these wells and the vertical extent of the salt-water contamination indicated by this data:

In the third set of wells, the deeper well FPB93-3 is 81 ft deep and is perforated at 52-57 ft below land surface, at the base of the glacial deposits; the shallower well, FPB93-3A is 49 ft deep and is perforated at 41-46 ft below land surface, at the top of the saturated glacial deposits. Water sampled from well FPB93-3 was Type 3 and had a dissolved-solids concentration of 58,700 mg/L, a chloride concentration of 35,000 mg/L, a density of 1.046 g/mL, and a specific conductance of 98,600  $\mu$ S/cm. Water sampled from well FPB93-3A was also Type 3 and had dissolved-solids concentration of 63,500 mg/L, a chloride concentration of 38,000 mg/L, a density of 1.045 g/mL, and a specific conductance of 97,200  $\mu$ S/cm. The water-quality information from these two wells indicates that saline-water contamination is present throughout the entire depth of the saturated zone, and that the chloride concentrations decreased very slightly with depth. The density of water in this saline-water contamination plume varied insignificantly with depth in the glacial deposits.

Report at 24-25.

3. <u>Magnitude of the Contamination</u>: The magnitude of the contamination was also estimated by USGS. This was done using estimates of the saturated thickness of the Quaternary deposits for the lateral extent of the confirmed and possible Type 2 and 3 contaminated plumes. This produced an estimate of water possibly affected by the contamination of from 9-60 billion gallons or 27,600-184,000 acre feet. Report at 25.

#### 4. Sources of the Contamination.

a. <u>Brine as Probable Source</u>: The USGS concluded that brine from oil production in the study area was the probable source of salt-water contamination in the Quaternary deposits. Report at 33. This conclusion was based, in part, on the exclusion of other possible sources. Saline seeps were ruled out as a likely source due to differences between the chemical composition of such seeps and the contaminated ground water, and because "no saline soils and relatively few saline seeps have been mapped in the study area (U.S. Department of Agriculture, 1985; Miller and Bergantino, 1983)." <u>Id.</u> at 31. Water from the Bearpaw Shale was found not to be a likely source of the contamination for two reasons: first, a difference in water chemistry; and second, the impermeable nature of the Bearpaw Shale. <u>Id.</u> at 31. In contrast, brine is a byproduct

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of oil production, which has been ongoing in the Field since 1952. <u>Id</u>. at 2, 31. As the USGS explained:

Brine is a byproduct of most crude-oil production activities. Most of this brine originates from intraformational dissolution of halite in the oil-producing zone which, in the East Poplar oil field study area, mainly is the Charles Formation of the Mississippian Madison Group. The major constituents in brine are sodium and chloride, a composition that is similar to contaminated ground water in the study area. The strong similarity in water chemistry indicates that brine is a likely source of saline-water contamination in the study area.

ld. at 31.

B. Possible Sources of Brine Contamination in and around the Field. The Report also identifies possible sources of contamination of the Quaternary deposits in the study area Report at 31. The possible sources are: "brine-injection wells, oil-production wells, brine-evaporation pits, pipelines, storage tanks, and upward brine migration from subsurface zenes through well casing or fractures, although no faults or fracture systems are known in the study area."

Id. These possible sources are located throughout the study area, as shown on Plate 3 to the Report.

The seriousness of this potential problem is underscored by Table 2 of the Report which estimates that the amount of brine that has been injected in the Field ranges from 9.752 billion gallons (based on the average injection rate) to 14.821 billion gallons (based on the maximum injection rate). As Table 2 shows, this estimate is based on only 8 of the 20 brine injection wells in the study area, as injection rates were not obtained for the other 12 brine injection wells. It is therefore a conservative estimate.

c. Specific Source Areas: Probable sources of brine contamination were also identified by the Report. This was done by identifying and contouring areas within contaminated plumes that exhibited significantly higher electromagnetic geophysical measurements. For this purpose, USGS considered the electromagnetic apparent conductivity to be significantly high if the value was 20 mmho/m higher than that used to delineate subarea 3, an area that had exhibited high electromagnetic apparent conductivity readings. Applying this methodology, the Report delineated "areas around or downgradient from probable sources of brine contamination." Report at 31.

<sup>&</sup>lt;sup>6</sup> For a discussion of electromagnetic geophysical survey methods and the unit of measurement -- millimhos per meter -- used to report the conductivity measured by the survey, see note 4, <u>supra</u>.

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The areas of significantly high electromagnetic apparent conductivity are shown on Plate 3 attached to the Report. With regard to these areas, the USGS concluded that:

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Probable specific sources may be located in or hydraulically upgradient of the areas of significantly high electromagnetic apparent conductivities. However, the areas of high electromagnetic apparent conductivity may not be all-inclusive; therefore, other specific source areas may exist.

#### Id. at 32. In addition, the Report concludes that:

Within the saline-water contamination plumes, the locations of significantly high electromagnetic apparent conductivity values generally are close to the locations of particular brine-injection wells, oil wells, pipelines, and storage-tank facilities. These areas appear to be probable specific source areas of the saline-water contamination.

<u>Id.</u> at 33. Thus, the Report specifically identifies probable specific sources of contamination.

## 5. Effects of Contamination of the Quaternary Deposits and Risks of Further Contamination.

The underground source of drinking water effected by the contamination is the Quaternary deposits, which supply drinking water to persons living in and around the Field and to the City of Poplar, which is located on the Reservation. The Quaternary deposits are an underground source of drinking water as defined by 40 C.F.R. § 144.3 and supply the public water system in the City of Poplar. As we show below, the contamination of groundwater in and around the Field threatens the public water system in the City.

a. The Area in and Around the East Poplar Oil Field: Wells completed in the Quaternary deposits are the sole source of developed ground water for persons living in and around the Field. Report at 14. In uncontaminated areas these wells provide potable water for domestic purposes. Id. The contamination of the only underground source of drinking water in the study area has already had a substantial impact on persons living and visiting there. Water sampled from private wells by the USGS during the period from 1989-93 showed that 26 of 27 privately owned wells contained water that exceeded the SMCL for dissolved-solids, with

<sup>&</sup>lt;sup>7</sup> Few water wells are completed below the Quaternary deposits as the underlying Bearpaw Shale is 700-1000 feet thick and lacks water. Report at 14.

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concentrations ranging from 427 to 91,100 mg/L. <u>Id</u>. at 16. During the same period, chloride concentrations in 15 of the 27 wells exceeded the SMCL, with amounts ranging from 7.3 to 58,000 mg/L. <u>Id</u>. Much of this water is contaminated to the degree that it is unfit for human or livestock consumption.<sup>8</sup>

b. <u>City of Poplar</u>: The Quaternary deposits are also the sole source of underground drinking water for the City of Poplar, and are relied on to supply the public water system in the City. Contamination of groundwater in this area is threatened by movement of the contaminated plumes. The USGS determined that the lateral movement of the contaminated water is generally westward towards the Poplar Ravine and then Southward in the Poplar River Valley. Report at 25. This places the contamination on a path towards the City of Poplar.

Furthermore, groundwater in the Quaternary deposits moves towards the City on a path that goes through three of the four areas that USGS identified as an "area of significantly high electromagnetic apparent conductivity." See Report at 31-32 and Report, Plate 1, Figure 6. This designation was used by USGS to "delineate areas around or downgradient from probable sources of brine contamination." Report at 31. The southern-most of these three areas, and the closest to the City, is located within a confirmed Type 3 plume (see Report, Plate 1, Figure 6) which contains the highest levels of contamination of any of the confirmed Type 3 plumes. See id. at 22-24. This plume is located in the central and southern parts of sec. 21, the southwestern part of sec. 22, the northern part of sec 28, T.28N., R.51E. This plume is, furthermore, likely to contain active sources of contamination, as we show below. See infra at 10-15.

Contamination of this area would effect the large number of people -- both residents and visitors -- who rely on the public water system in the City. In addition to its resident population,

0 - 2,500 mg/L, good 2,500 - 3,500 mg/L, fair 3,500 - 4,500 mg/L, poor Greater than 4,500 mg/L, unfit

Water that is contaminated with dissolved-solids of more than 4,500 mg/L is considered unfit even for livestock watering purposes. See Exhibit 3, Reconnaissance of Ground-Water Resources of the Fort Peck Indian Reservation, Northeastern Montana (Report 91-4032), Sheet 2 of 2. Report 91-4032 describes a classification system for livestock watering based on dissolved-solids concentration in the water. The system was developed by Montana State College (now Montana State University) and sets out the following four classifications:

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the City is also a center for substantial governmental and business activity. The Tribes' governmental offices are located within the City, including the Tribal Health Center and Headstart program.

The threat posed by the movement of contaminated groundwater plumes was dramatically shown by USGS in reviewing changes in water quality in two privately owned wells over a 4-6 year period. The USGS found that the water in these wells had changed from uncontaminated to considerably contaminated during this time:

Wells M-28 and M-31 are privately owned and completed in Quaternary deposits of a confirmed Type 3 plume located in the central and southern parts of sec. 21, the southwestern part of sec. 22, the northwestern part of sec 27, and the northern part of Sec. 28, T.28N., R 51E. (pl 3). Water collected from both wells during 1985 was uncontaminated. Water collected from well M-28 in 1989 was moderately contaminated. Water collected from well M-28 in 1991 and well M-31 in 1989 had become considerably contaminated. By 1993, water collected from well M-31 was similar to the brine produced from the oil field (Type 4). The increasing trend in dissolved-solids concentration in water from M-28 and M-3! may indicate that the source of the contamination was active during 1985-93. Because no further construction has occurred in this area (Debi Madison, Fort Peck Tribes, Office of Environmental Protection, oral commun., 1997), the source of the contamination may still be active.

#### Report at 25-26.

While we emphasize that a serious problem exists if even one homeowner is unable to obtain well water for domestic use, it is equally clear that the threat to the City posed by movement of the contaminated plumes is exponentially larger.

- B. Indications of Active Sources of Contamination. The threat of further contamination is greatly enlarged by indications that active sources of contamination continue to contaminate the Quaternary deposits. More specifically, provisional water quality data obtained by the Tribes from the USGS shows that contamination is worsening in the southern-most confirmed Type 3 plume, which indicates that contamination is continuing. Water temperature data obtained by USGS in 1997 and 1998 and information gathered by the Tribes also indicates the existence of active sources of contamination in the same area.
- 1. Recent Water Quality and Temperature Data: Water samples collected from two monitoring wells, FPB93-3 and FPB93-3A, in 1997 and 1998 showed increases in both chloride

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and dissolved-solids concentrations in the period from 1993 to 1997 and 1998, when additional samples were collected. See Exhibit 4, USGS Provisional Data. In 1993, water sampled from FPB93-3 had a chloride concentration of 35,000 mg/L, and dissolved-solids concentration of 58,700 mg/L. Report at 24-25. Samples collected in 1997 and 1998 showed that chloride concentrations had increased to 37,000 mg/L (1997) and then to 40,000 mg/L (1998) and that dissolved-solids concentrations had increased to 64,400 (1997), to 67,900 (1997) and were at 67,100 mg/L in 1998. Exhibit 4. In 1993, water sampled from FPB93-3A had a chloride concentration of 38,000 mg/L and a dissolved-solids concentration of 63,500 mg/L. Report at 25. Samples collected in 1997 and 1998 showed that chloride concentrations had increased to 40,000 mg/L (1997) and were at 39,000 in 1998, and that dissolved-solids concentrations had increased to 65,700 (1997), and were at 65,300 mg/L in 1998. Exhibit 4. This data indicates that in 1997-8, as in 1993, water from these wells had chloride and dissolved solids concentrations within the range of actual brine, which is Type 4 water. Report at 16

The worsening contamination in this area indicates that it is continuing. Furthermore, the shallow and the deep monitoring wells in this area -- FPB93-3 and FBB93-3A -- continue to show the same contaminant levels. This indicates the presence of an active source of contamination in the area, as it did in 1993. The Report explains why this is so

The water-quality information from these two wells indicates that saline-water contamination is present throughout the entire depth of the saturated zone, and that the chloride concentrations decreased very slightly with depth. The density of water in this saline-water contamination plume varied insignificantly with depth in the glacial deposits. The presence of dense, saline water of similar characteristics throughout the aquifer may indicate that the source of saline contamination may still be contributing saline water to the aquifer or that the source inputs are recent enough that an insufficient period of time has elapsed to develop vertical chloride and density gradients.

#### Report at 25.

In addition, the temperature data from these two wells continues to be consistent with the conclusion that the source of contamination in this area is active. In 1993, water sampled from FPB93-3 had a temperature of 18.0 degrees Celsius (Report 95-749, Table 6), while samples collected in 1997 and 1998 showed a temperature of 22.5 and 24.5 degrees Celsius, respectively. Exhibit 4. In 1993, water sampled from FPB93-3A had a temperature of 19.0 degrees Celsius, which in 1997 was 23.5 and in 1998 was 25.5 degrees Celsius. Exhibit 4.

2. <u>The Mesa wells</u>: The Tribes also obtained additional information that indicates that the source of the contamination in the southern-most Type 3 plume is either the Biere

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A-1 (SWD) well or the Biere 1-22 (producing) well, or both. These wells were operated by Mesa Petroleum and hence we refer to these wells as the "Mesa Biere A-1" and "Mesa Biere 1-22" wells.

We note initially that the identification of these wells as the probable source of contamination in this area is supported by the Report and the USGS Provisional Data. First, these wells are located within the southern-most of the three confirmed Type 3 plumes identified by USGS. Second, data from the two monitoring wells in this plume -- FPB93-3 and FPB93-3A -- that are nested to the adjacent Mesa wells also points to the Mesa wells as an active source of contamination, as discussed above. Third, apart from the monitoring wells, the two Mesa wells are the only wells located within the area of significantly higher electromagnetic geophysical measurements that the USGS identified within this plume. As the Report indicates, this designation delineated "areas around or downgradient from probable sources of brine contamination." Id. at 31. The two Mesa wells are the only possible sources of contamination located within this area. See Report at 31 (identifying possible sources of brine contamination).

The additional information obtained by the Tribes supports these indications that the Mesa wells are an active source of contamination. We review the additional information concerning these two wells separately.

The Mesa Biere 1-22 well was completed on June 8, 1970, and produced oil from the Charles formation. See Exhibit 5, Log of Well, Montana Oil and Gas Conservation Commission. On July 18, 1984 Mesa filed a Notice of Intention to Abandon Well with the Montana Board of Oil and Gas Conservation. Exhibit 6. The "Details of Plan of Work" contained in the Notice of Intention to Abandon states that the well was to be plugged as follows:

Subject well is currently uneconomic to produce, and Mesa Petroleum Co. is proposing to plug subject well as follows: Well drilled to TD of 5845'; 5-1/2 casing set at 5845'. Well perforated at 5791'. Propose to set cast iron bridge plug at 5750', spot 25 sxs cement plug above CIBP. Perforate 5-1/2 casing 50' below 8-5/8" surface casing set at 741'. Squeeze 5-1/2 production casing with 50 sxs cement, leaving 20 sxs cement inside 5-1/2" casing. Spot 10 sxs cement plug at surface, set dry hole marker.

The "Details of Work Result" section of the Subsequent Report of Abandonment filed with the Montana Board of Oil and Gas Conservation, on September 26, 1984 (Exhibit 7) states that the Mesa Biere 1-22 well was plugged on September 17, 1984 as follows:

"squeezed with perfs at 5791 with 50 sxs cement. Top of cement at 5760. Perforated tubing at 5750, spotted 30 sxs cement inside and outside of tubing from 5435-5750. Perforated tubing from 993-996 and pumped 50 sxs

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cement down tubing, pumped 85 sxs cement down 5 ½ production casing. Pumped 220 sxs cement down 8 5/8 surface casing. Cut off casing 4 below ground level. Welded cap on 8 5/8 casing, dumped 10 sxs cement on top of cap. All casing and tubing was left in well."

#### Exhibit 7.

Differences between the "Details of Plan of Work" in the Notice of Intention to Abandon, and the "Detail of Work Result" in the Subsequent Report of Abandonment show that Mesa Biere 1-22 was not plugged in accordance with the original plan. This difference is highlighted by the actual use of 445 sxs cement when the plans called for 105 sxs cement.

Other records filed with the Montana Oil and Gas Conservation Commission show that the well was actually plugged on September 14 and 15, 1984. See Exhibit 8, Halliburton Invoice No. 858822, dated September 14, 1984; and Exhibit 9, Halliburton Invoice No. 960533, dated September 15, 1984. The invoice dated September 14, 1984 shows a mileage charge for two days and a pump charge for 5760 feet. Exhibit 8. The invoice for September 15, 1984, which was a Saturday, shows a mileage charge for 125 miles and a pump charge for 500 feet. Exhibit 9 There are no invoices on file that reflect work done on the well on September 17, 1984.

Additional information about the plugging of the well was obtained by the Tribes' Environmental Engineer Debi Madison through an interview conducted with Bill Strauser on February 1, 1998. See Exhibit 10. Mr. Strauser was a contract pumper for the Mesa Petroleum Company, and stated that he operated the Biere A-1 and the Salt Water Disposal Well. Mr. Strauser stated that, although he was not on site when the Mesa wells were plugged, he was aware that the producing well had a difficult plug and that water was surfacing around the well. He reported that Mesa then drilled along side the producing well and pumped cement into the well. Mr. Strauser stated that he was asked to monitor the pressure on a pipe that was subsequently placed on the well. He thought that Mesa had drilled to where they hit water flow and then pumped cement into the old well bore. See Exhibit 10.

The Strauser interview indicates that Mesa Biere 1-22 was not plugged in the manner indicated in the Notice of Subsequent Abandonment and that the well was not adequately plugged. In particular, the Notice of Subsequent Abandonment makes no reference to Mesa having drilled along the side of the producer to pump cement into it. The Strauser interview also establishes that

<sup>&</sup>lt;sup>9</sup> The Mesa Biere A-1 well was the salt water disposal well. Mr. Strauser mistakenly referred to the Biere A-1 well and the salt water disposal well as separate wells.

### PRIVILEGED AND CONFIDENTIAL ATTORNEY WORK PRODUCT

as initially plugged, water was surfacing around Mesa Biere 1-22. See Exhibit 10. As the water in the Quaternary deposits is not under sufficient pressure to bring it to the surface, this indicates that Mesa Biere 1-22 was bringing brine to the surface, a violation of 40 C.F.R. § 144.12.

In addition, records filed with the Montana Oil and Gas Conservation Commission indicate that a "relief well" was completed in 1985. This is shown by Halliburton Invoice No. 251139-9, which describes work done for the relief well, which was identified with reference to "1-22 Biere." See Exhibit 14, Halliburton Invoice No. 251139-9, July 12, 1985. This invoice was filed with the Montana Oil and Gas Conservation Commission on July 23, 1985. Attached to that invoice is a Western Petroleum Services Cementing Report, dated August 29, 1985 which also describes work done on the "Biere 1-22 Relief Well." See Exhibit 15. The Tribes did not locate any information to show that the relief well was permitted. Nor did the Tribes find any indication that an updated plan for plugging and abandoning the Mesa Biere 1-22 well was filed. Cf. 40 C.F.R. § 144.28(k)(2).

The Tribes also obtained additional information that indicates that the Mesa Biere A-1 well was not properly plugged. This well was completed as a salt water disposal well on July 9, 1970, and was to be used for injection into the Judith River formation. Exhibit 11, Log of Well. Montana Oil and Gas Conservation Commission, dated July 17, 1970. Mesa proposed to plug the Biere A-1 well when the Biere 1-22 well was no longer economic to produce. See Exhibit 6, Notice of Intent to Abandon Well, Montana Board of Oil and Gas Conservation, dated July 18, 1984. With regard to the actual plugging of the well, the Notice of Subsequent Report of Abandonment, Montana Board of Oil and Gas Conservation, dated October 5, 1984 (Exhibit 12) states that the well was plugged on September 15, 1984 by "squeezing perfs with 140 sxs class "H" cement and filling 5-1/2 casing and tubing w/110 sxs Class "H" cement. Cut casing 4 ft. below ground level. Welded cap on casing." The same information was set forth on the Plugging Record, United States Environmental Protection Agency, dated January 11, 1985 (a copy of the plugging record is attached as Exhibit 13).

However, these reports concerning the Mesa Biere A-1 well are contradicted by information recently obtained by the Tribes. The Tribes Environmental Engineer, Debi Madison interviewed Joe Simonson, a retired Field Inspector for Montana Board of Oil and Gas on October 8, 1998 and acquired the following information. Mr. Simonson stated that the purpose of the relief well was to take pressure off the SWD well. He stated that the disposal zone, which was the Judith River, was overcharged. Mr. Simonson stated that the cement job broke loose on the SWD well because of the increased pressure. He further advised that no surface casing was set in the Judith River disposal well, which he felt was an engineering mistake. To correct the problem, blow out preventers were set, and a spinner test was run to see if water was circulating and migrating. Simonson also stated that it was necessary to build a dam around the injection well because water was boiling out all around it. The SWD was then recemented. See Exhibit 16, Interview with Joe Simonson, retired Field Inspector for Montana Board of Oil and Gas dated October 8, 1998.

### PRIVILEGED AND CONFIDENTIAL ATTORNEY WORK PRODUCT

The Simonson interview indicates that the Mesa A-1 Biere well was not adequately plugged, that brine was surfacing at the Mesa Biere A-1 well in violation of 40 C.F.R. § 144.12(a), and that problems encountered with this well led to the completion of a relief well.

#### Conclusion

The presence of contaminants in the Quaternary deposits in and around the Field presents an imminent and substantial endangerment to the health of persons in and around the Field and threatens to contaminate the public water system relied on by the City of Poplar. There has been no action taken by State or local authorities to address this problem, and accordingly we request that the EPA do so through the exercise of its emergency powers under the Safe Drinking Water Act, specifically 42 U.S.C. §300i(a) In addition, we request that EPA take action in response to this request in accordance with and as required by the provisions of 40 C.F.R. §144.12(b).

Sincerely,

Douglas B. L. Endreson

Mr. Spike Bighorn, Chairman

cc:

Physical properties and major-ion concentrations in water samples collected from privately owned wells and monitoring wells in the East Poplar oil field, Fort Peck Indian Reservation, northeastern Montana. Dates in bold type apply to samples collected after sample completion for U.S. Geological Survey Open-File Report 95-749 (refer to Table 6 in this report for explanation of headings and footnotes).

Well name	Site number	Geo- logic unit	Depth of well (feet)	Collect- ing agency	Analy- zing agency	Date sample collected	Specific conduct- ance, onsite (µS/cm)	pH, onsite (stan- dard units)	Water temper- ature, onsite (°C)	Den- sity (g/mL at 20°C)	Hard ness, total (mg/L as	Calcium, dis- solved (mg/L as Ca)
M-3	28N51E08ADDA01	Qal	52	USGS	USGS	08-23-90	12,050	7.7	11.0		CaCO <sub>3</sub> )	48
		<b>4</b>	32	USGS	USGS	09-03-97	3,420	7.6	10.0	-	280	100
M-25	28N51E17DADA01	Qı	102	••	YSB	02-10-75	11,080	17.2	_		180	34
		-		USGS	USGS	08-25-90	4,400	7.4	10.5		900	160
•	•			USGS	USGS	09-03-97	5,770	7.4	10.5	-	_	230
FPB92-12	28N51E22BBBB01	Qt	68	USGS	USGS	07-24-93	3,050	7.3	11.0	1.001	1,800	280
		_		USGS	USGS	06-24-98	2,120	7.5	12.0		1,200	. 170
FPB93-3	28N51E22CBCB01	Qt	18	USGS		,07-21-93.		4.6	18.0.		.s <del></del> 4,400 s	1;200
				USGS	USGS	r.:·08-28-97.,	96,700 av	મું અ 6.7 <del>.2</del> 2.	251022.5 m	COST CONTROL	adiotes and a	:::1,100 °° -
٠.				USGS	USGS	v. 06-24-98	, 94,500 <sub>7</sub>	<b>7726:6</b> 73	27/2524/5721	ecentron.	NGC (NGC 1974) Oceanous	조합 100 T C
FPB93-3A	28N51E22CBCB02	0.	40	USGS		406-24-98						
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				USGS		07-27-97: 06-24-98:	92,000 -2	15:40.0\ta	いいかいて こにっ		nere err	**************************************
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					ELAB	12-15-89	1,760	17.5	_		300	32
				USGS	USGS	403-24-90	1,120	7.2	17.5	_	400	71
•				USGS	USGS	408-24-90	1,120	7.2	17.5	•	410	72
		•		USGS	USGS	09-16-91		_				
				USGS	USGS	04-15-92	1,550	7.2	7.0	.997	530	89
				USGS	USGS	09-03-97	2,490	7.3	15.5	_	_	120
				USGS	USGS	06-25-98	2,370	7.5	12.0	-	720	110
M-31	28N51E27BBBB01	Qι	68		ELAB	05-23-85	<sup>1</sup> 3,470	17.6			1,600	250
					CHNO	11-21-88	<sup>1</sup> 15,400	¹6.7			7,600	1,230
					<b>ASCHM</b>	03-10-89	_		_			1,500
				USGS	USGS	07-24-89	25,000	6.8	10.5		11,000	1,800
				USGS	USGS	08-27-90	48,000	6.5	11.5		16,000	2,800
				USGS	USGS	01-31-91	<sup>1</sup> 52,7 <b>0</b> 0	5.8	7.0		16,000	2,900
				USGS	USGS	05-08-91	51,400	<sup>1</sup> 6.7	11.5		16,000	2,900
				USGS	USGS	⁴07-22-9i	63,000	6.3	10.0		16,000	2,900
				USGS	USGS	407-22-91	63,000	6.3	10.0	-	16,000	3,000
				USGS	USGS	04-15-92	50,000	6.5	11.0	1.033	14,000	2,800
				USGS	USGS USGS	07-23-93	81,500	6.6	10.5	1.038	12,000	2,800
				USGS USGS	USGS	08-28-97 06-25-98	89,800 88,500	6.8	11.0	_	,	2,000
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			7	USGS	USGS	09-03-97	3,330	7.3	9.5	_	-	170
FPB92-13	29N51E20DABB01	Qal	56	USGS	USGS	08-15-93	14,200	7.5	_	1.003	2,900	500
				USGS	USGS	06-25-98	13,000	7.5	10.0	-	2,000	350
FPB92-10	29N51E31BDBA01	Qal	40	USGS	USGS	08-10-93	8,900	6.9	16.5	1.002	2,200	520
				USGS	USGS	06-25-98	4,420	7.4	12.0	_	_	240
FPB92-8	29N51E31DBDD01	Qal	33	USGS	USGS	08-12-93	31,500	7.2	9.5	1.010	2,000	450
rance -		٥.		USGS	USGS	08-28-97		7.6	11.5	_		. 290
FPB92-3	29N51E32BAAD01	. Qal	39	USGS	USGS	08-14-93	35,400	7.3	12.0	1.012	2,000	380
W-15	29N51E32BBBB01	0-1	. 40	USGS USGS	USGS USGS	07-26-97 11-03-82	•	8.4 6.6	9.5	-	7 000	19
44-15	731471E770D0001	Qal	49	USGS	USGS	07-23-89	65,000	6.6 · 6.7	25.0 16.0	_	7,800 5,000	2,500 · 1,500
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120	530	7	- 0 7	<sup>1</sup> 380	180	64	.4			757	28N51E17DADA01
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2,200	5,400	19	41	404	1,000	21,000	<.1	8.7	.150	32,800	
2,100	6,900	24	. 44	<sup>1</sup> 449	1,200	22,000	5.1	9.6	<.110	35,500	
,200	8,200	28	50	<sup>1</sup> 446	1,400	25,000	8.2	9.2	.092	40,100	
2,000	9,000	31	52	466	1,200	23,000	1.9	8.1	.072	38,500	
2,100	9,200	32	49	466	1,300	25,000	1.9	9.0	.074	41,000	
,800	11,000	40	61	<sup>1</sup> 416	1,800	29,000	3.2	9.6	.087	46,800	
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100	400	6	6.4	660	1,000	40	.3	1.6	.190	2,120	
120	433	6	6.9	642	1,100	76		_	_	2,370	
410	2,000	16	<b>3</b> 5	l332.	170	4,600	.4	3.6	.300	7,960	29N51E20DABB01
280	1,900	18	15	<sup>1</sup> 381	175	4,080	<.1	-	_	7,060	
220	950	9	12	263	980	2,100	.3	1.0	.024	4,960	29N51E31BDBA01
94	590	8	8	<sup>1</sup> 310	800	860	.2	-		2,800	-
200	6,300	62	29	396	490	10,000	.7	0.74	.380	18,000	29N51E31DBDD0
121	. 3,980	50	23	398	420	6,600	_	-	_	11,700	
260	7,100	69	57	· 453	710	12,000	.8	1.4	.270	20,800	29N51E32BAAD0
13	1,210	53	12	<b>6</b> 16 ·	350	1,300	-		_	3,250	
380	43,000	210	150	<sup>1</sup> 172	1,100	67,000	<.1	_		114,000	29N51E32BBBB0
<b>29</b> 0	17,000	·110	83	323	770	30,000	.1	9.2 .	1.1	50,000	
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m No. 2

NOTICE HIS FORM BECOMES A RMIT WHEN STAMPED PROVED BY AN AGENT THE BOARD. (SUBMIT IN QUADRUPLICA)

œAC 36-3.18(10)-S18140 AAC 36-3.18(10)-S18170 **SeA**C 36-3.18(10)-S18200

AC 36-3.18(10)-S1802

ÑAC 36-3.18(10)-S18030

BOARD OF OIL AND GAS CONSERVATIONS CONS. COMM.

SAC 36-3.18(10)-S18310 MAC 36-3.18(10)-S18330 MAC 36-3.18(14)-S18380

BILLINGS OR SHELBY

SUNDRY NOTICES AND REPORT OF

Notice of Intention to Drill	Subsequent Report of Water Shut-off
Notice of Intention to Change Plans	Subsequent Report of Shooting, Acidizing, Cementing
Notice of Intention to Test Water Shut-off	Subsequent Report of Altering Casing
Notice of Intention to Redrill or Repair Well	Subsequent Report of Redrilling or Repair
Notice of Intention to Shoot, Acidize, or Cement	Subsequent Report of Abandonment
Notice of Intention to Pull or Alter Casing	Supplementary Well History
Notice of Intention to Abandon Well Froduces X	Report of Fracturing

	984
llowing is a notice of intention to do work on land owned described as follows:	
LEASE Biere	
MONTANA Roosevelt Poplar	
(State) . (County) (Field)	
ell No. 1-22 CNWSW 22 28N 51E	
(m. sec.) (Township) (Range) (Meridian	)
ne well is located 1980 ft. from $\left\{\begin{array}{c} X \\ S \end{array}\right\}$ line and 660 ft. from $\left\{\begin{array}{c} X \\ W \end{array}\right\}$ line of Sec. 22	
OCATE WELL SITE ACCURATELY ON PLAT ON BACK OF THIS FORM.	
he elevation of the ground or K.B. above the sea level is2086_KB	

LEAD CAREFULLY

DETAILS OF PLAN OF WORK

READ CAREFULLY

(State names of and expected depths to objective sands; show size, weights, and lengths of proposed casings, cementing points, and all other mportant proposed work, particularly all details of Shooting, Acidizing, Fracturing.)

#### DETAILS OF WORK RESULT

Subject well is currently uneconomic to produce, and Mesa Petroleum Co. is proposing to plug subject well as follows: Well drilled to TD of 5845'; 5 1/2" casing set at 5845'. Well perforated at 5791'. Propose to set cast iron bridge plug at 5750', spot 25 sxs cement plug above CIBP. Perforate 5 1/2" casing 50' below 8 5/8" surface casing set at 741'. Squeeze 5 1/2" production casing with 50 sxs cement, leaving 20 sxs cement inside 5 1/2" casing. Spot 10 sxs cement plug at surface, set dry hole marker.

MEDCATION.	INSPECTED	8	MADRIALD:
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Approved subject to conditions on reverse of form

JUL 23 1984

Mesa Petroleum Co.

Regulatory Coordinator

P. O. Box 2009/Amarillo, Texas

BOARD USE ONLY

OK

er weekly 84

orm No. 2 (SUBMIT IN QUADRUPLICATE)

NOTICE

THIS FORM BECOMES A ERMIT WHEN STAMPED PPROVED BY AN AGENT F THE BOARD.

то

MAC 36-3.18(10)-S18020 MAC 36-3.18(10)-S18030 MAC 36-3.18(10)-S18140 MAC 36-3.18(10)-S18170 MAC 36-3.18(10)-S18200 MAC 36-3.18(10)-S18310 MAC 36-3.18(10)-S18330

MAC 36-3.18(14)-S18380

BOARD OF OIL AND GAS CONSERVATION OF THE STATE OF MONTAGE

BILLINGS OR SHEI

SUNDRY NOTICES AND REPORT OF WELLS VE

	ALL MOLECULES	
Notice of Intention to Drill	Subsequent Report of Gyater Shubon	
Notice of Intention to Change Plans	Subsequent he mart of Shooting Vardizing, Cementing	_
Notice of Intention to Test Water Shut-off	Subsequent Report of Atomic Casing	
Notice of Intention to Redrill or Repair Well	Subsequent Report of Redrilling or Report	
Notice of Intention to Shoot, Acidize, of Cement	Subsequent Report of Abandonment Treduces	X
Notice of Intention to Pull or Alter Casing	Supplementary Well History	
Notice of Intention to Abandon Well	Report of Fracturing	

	II			1 1
(Indicate A	bove by Check Mark Nati	ire of Report, Notice, or Oth	er Data) . ·	<del></del>
	•	September 26		1984
following is a notice of intention to report of work done	do work { on land }	owned described as for leased	ollows:	
•		LEASE B		*************************
MONTANA	······································	Roosevelt		Poplar
(State)		(County)		(Field)
vell No. 1-22 C VW SW	22	28N	51E	***************************************
·	(m. sec.)	(Township)	(Range)	(Meridian)
The well is located1980ft. f	$rom \begin{cases} X \\ S \end{cases}$ line and	660	H line of Sec	22
OCATE WELL SITE ACCURATELY	ON PLAT ON BACK O	F THIS FORM.		
The elevation of the ground or K.B. abo	ove the sea level is?	2086' KB		
EAD CAREFULLY	DETAILS OF P	LAN OF WORK	R	EAD CAREFULLY

(State names of and expected depths to objective sands; show size, weights, and lengths of proposed casings, cementing points, and all other mportant proposed work, particularly all details of Shooting, Acidizing, Fracturing.)

#### DETAILS OF WORK RESULT

Subject well was plugged on 9/17/84 as follows: squeezed perfs at 5791' with 50 sxs cement. Top of cement at 5760'. Perforated tubing at 5750', spotted 30 sxs cement inside and outside of tubing from 5435' to 5750'. Perforated tubing from 993'-996' and pumped 50 sxs cement down tubing, pumped 85 sxs cement down 5-1/2" production casing. Pumped 220 sxs cement down 8-5/8" surface casing. Cut off casing 4' below ground level. Welded cap on 3-5/8" casing, dumped 10 sxs cement on top of cap. All casing and tubing was left in well.

COCATION, INSI	PECTED &	APPROVED:
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pproved subject to conditions on reverse of form

AUG - 5 1986

BOARD USE ONLY

District Office Agent

Company Mesa Petroleum Co.

Title Regulatory Agent

Address P.O. Box 2009, Amarillo, TX 79189

TEN Reports on this form to be submitted to the appropriate District for

HENUSED AS PERMIT TO ORILL PERMIT EXPIRES 30 DAYS FROM DAY APPROVAL IF WELL NOT SPUDDED OR EXTENSION REQUESTED.



#### P.C. BCX 84737 DALLAS, TEXAS 75284

DIRECT ANY CORRESPONDENCE TO

PAGE 1 CF

INVOICE

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BULK TICKET

AS PER ATTACHED B TICKET NO.

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Thonk you



CUSTOMER OR HIS AGENT

#### REMIT TO P.O. BOX 84737 DALLAS, TEXAS 75284

DIRECT ANY CORRESPONDENCE TO P.O. DRAWER 1431

PAGE 1 OF NO.

960531

**DUNCAN, OKLAHOMA 73536** COUNTY 9-15-64 BIERE ROOSEVELT MONTANA USC PETROLEUM SA SAME LOCATION 202€ 5553 2009 EMERILLO TEXAS CODE 3 22-28N-51E DELIVERY CHET NO WELL TYPE RECEIVED DIL WORK DUF P OIL & GAS CONS. COMM. STATE OF MONTA ARANDON

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ALLIBURTON OPERATOR

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DESTATION OF EQU			74016 -		

Bill Strauser, SR. Interview 2/11/98

Bill was a contract pumper for the Mesa Petroleum Company and operated the Biere A1 and the SWD well. Murphy did not operate any of the Mesa properties as far as he knew. Mr. Strauser was not on site when the wells were plugged. However, the producing well had a difficult plug and apparently water was surfacing. The Mesa Company drilled along side the producer and pumped cement into the well. Mr. Strauser was asked to monitor the pressure on a pipe that was placed on the well. He monitored the reading for several weeks. Mr. Strauser thought that the Company drilled to where they hit water flow and pumped cement into the old wellbore.

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Form No. 2

NOTICE THIS FORM BECOMES A PERMIT WHEN STAMPED APPROVED BY AN AGENT OF THE BOARD. (SUBMIT IN QUADRUPLICATE)

BOARD OF OIL AND GAS CONSERVATION OF THE STATE OF MONTANA

BILLINGS OR SHELBY

MAC 36-3.18(10)-\$18020 MAC 36-3.18(10)-S18030 MAC 36-3.18(10)-S18140 MAC 36-3.18(10)-S18170 MAC 36-3.18(10)-S18200 MAC 36-3.18(10)-S18310 MAC 36-3.18(10)-518330 MAC 36-3.18(14)-S18380

#### SUNDRY NOTICES AND REPORT OF WELLS

Solice of Intention to Drill	Subsequent Report of Water Shut-off	<u> </u>
Notice of Intention to Change Plans	Subsequent Report of Shooting, Acidizing, Cementing	<u> </u>
Notice of Intention to Test Water Shut-off	Subsequent Report of Altering Casing	<u> </u>
Notice of Intention to Redrill or Repair Well	Subsequent Report of Redrilling or Repair	<u> </u>
Notice of Intention to Shoot, Acidize, or Cement	Subsequent Report of Abandonment	X
Notice of Intention to Pull or Alter Casing	Supplementary Well History	
Socice of Intention to Abandon Well	Report of Fracturing	-
		1

		1			1 1	
	(Indicate Above by Check Mark N	ature of Re	port. Solice, or O	ther Data)		
			Octobe	er 5	19	84
`ollo	ving is a !notice of intention to do work! on land !report of work done	) owned ! leased	described as	follows: -Biere		
	MONTANA Roosevelt				Poplar	
•••••	(State)	(County)		••••••••••••••••••••••••••••••••	(Field)	******
Vell	No. Biere #A-1 (SWD) 22	2	(Township)	51E (Range)	(Meridian)	******
The '	veli is located $\frac{1750}{S}$ ft. from $\frac{33}{S}$ tine and	140	ft. from	XX line of Sec	22	
LOC.	ATE WELL SITE ACCURATELY ON PLAT ON BACK	OF THIS	FORM.			
ihe (	levation of the ground or K.B. above the sea level is	2.0.8 7'	X3			•
REA	CAREFULLY DETAILS OF	PLAN OF	WORK	F	READ CAREFU	ILLY
inipoi	State names of and expected depths to objective sands; show sitant proposed work, particularly all details of Shooting, Acid	z weights. izint. Franc	and i-naths of proprints	posed casines, cyment	ing points, and al	Lother
		s of wo	RК			
	R ject well was plugged on 9/15/84	ESULT			_	
cas	ent and filling 5½" casing and to ing 4' below ground level. Welde	ed cap	on casing	י בנים	โลดเฉต	ut Marie
	·				رریج بدانی 1 0 OCT 0	984
				DRIN	' EPA REGION NKING WATER	
	oved subject to conditions on reverse of form	Co:	mpary Mes	a Petroleum	Co.	
Date		By.	Randy/Nor	dsven		••••••
Ву	<b>5</b>	Ti:	ie Regu	latory Acen	t	•••••
	District Office Agent Title .	Αċ	aress P. O.	BOX 2009 P	marillo T	X
	BOARD USE ONLY		-		79189	
	API WELL NUMBER' NOTE:—Reports or	this form t	o be submitted to (	he appropriate Distric	t for approval	
2   5 TATE	WHEN USED AS EARPROVAL	ERMIT TO	DRILL PERMIT	EXPERES 90 DAYS F	ROM DATE OF	

7/13/87: M 34

• •	UP-120 SILIS CSI - CU WASHINGT	IENTAL MADTEC" - N'A <u>GE</u> NEY ON DC 20480	
$_{C}PA$	· ·	G RECORD	
			·
Mesa Petroleum Co.		NO ADDRESS OF CEMENTING COMP.	ANT
P.O. Box 2009		0.0. Box 2374	
Amarillo, Texas 79189			(it up po as more
Amarii 10, 18383 73103	I STATE I COUNTY	111136011, 1110. 033012	PERMIT NUMBER
LOCATE WELL AND OUTLINE UNIT ON	Ht. Rocsevel	+	(it never was permi) PERMIT NUMBER MTRZIPR-6005 L
SECTION PLAT - 640 ACRES	SURFACE LOCATION DESCRIPTION	· · · · · · · · · · · · · · · · · · ·	THE THE BOOS E
×	SH FOR MA FOR		INSHIP 29N MANGE 51E
		FROM REAREST LINES OF QUARTER	SECTION AND DRILLING UNIT
<del>                                  </del>		2.,	re #A-1 8WD
	Surface 175 G, from (N/S) S	Line of quarter section	
	יון על מר שומכה ד חצומה	e of quarter section	
	TYPE OF PERMIT		which the fluid was placed and
	E Individual	the method used in introcuring	it into the hole
W	D Area	_	
	\	Cement was oumped an	nd perfs_squeezed
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	i	in well tore, remain	ning hole filled to
	Number of Walts		
		surface with cement	by oumping.
S	1. 1		
			•
CASING AND TURING RECORD A	FTER PLUGGING	WELL ACTIVITY	METHOD OF EMPLACEMENT OF
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= 1/2" 15 5= 1 740'	740'   9"	C Enhanced 9 scovery	Citie Dump Berier Method
2 7/8" 6 5= 1 806"	ane: 1 4,751	C hydrocarden Storage	C The Two-Mug Method
		Laise Nime	Well Number
CEMENTING TO PLUG AND ABANDON DATA	l sugar i suga	I huges I huges I h	LUGIS   MUGIS   MUGIT
Camering Date 9/15/94	StyeezecFilled		1 1
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Gesth to Benom of Tuting or Ordi Proe in I	1 806' 1 306'	1 1	
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Signature of Comenter or Authorized Representative	) · ·	ure of EPA Reprosentative	
Randy Nordsven Kande Mar.	17		
Randy Nordsven Kande Ylar			
	CERTIFICATI	•	
I certify under penalty of law th			
supervision in accordance with			
evaluate the information sub-			
to the best of my knowledge an			
penalties for submitting false i			
violations. [Rel. 40 CFR 122.2			g
	•		<del></del>
NAME AND OFFICIAL TITLE (Please type or print)	SIGNATURE ECONO	ly / jordones	DATE SIGNED
Randy Nordsven	Pandy M	ly forderer ordsven	January 11, 1935
Regulatory Agent	, sendy in		1 22

P.O. BOX 84737

DALLAS, TEXAS 75284

DIRECT ANY CORRESPONDENCE TO

ESPONDENCE TO EXHIBIT 14

STATE

No. 251139-19

VISION OF HALLIBURTON COMPANY P.O. DRAWER 1431			
DUNCAN, OKLAHOMA 73536	2		
	GE 1 OFPAGES		
L NO FARM OR LEASE NAME COUNTY	STATE CITY/OFFSHORE	LOCATION	DATE
1-22 BEIRE ROOSEVE	= 47 - m 7		7-70-
AGE TO	OWNER	TICKET TYPE ICHECK ONE!	1046
MESA PETROLEUM	SAME	SERVICE SALES	YES NO Z
PAESS	CONTRACTOR	LOCATION	CÓDE
BOX 2009	WIECA	1 CLENDINE	5553
Y, STATE, ZIP	SHIPPED VIA FREIGHT CHARGES	LOCATION	CODE
AMARILLO, TX. 79189	VEHICLE - MO DOLLET	2	
22-2871.516 STOTIZZZ324257833	DELIVERED TO	LOCATION	CODE
N 619 (2) (CC) (63)	LOCATION	3	1000
22-18/1-016 500	ORDER NO.	REFERRAL LOCATION	
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	WELL TYPE WELL CATEGO	ORY WELL PERMIT	T NO.
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CA WEATE OF THE COLUMN TO THE		B- 30	2/110-
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As consideration, the shore-named Customer agrees or pay Hastiburine in social with the rates and date of levelor. Upon Customer's default in payment of Customer's socient by 100 leaving of the month highest leaving contract rate applicable but never to exceed 12th but along the Bust it becomes necessationary from in the amount of 20% of the smooth of the unpublication of the unpublication of the smooth of the smooth of the unpublication of the smooth of the unpublication of the smooth of the smooth of the smooth of the unpublication of the smooth of the smooth of the smooth of the unpublication of the smooth o	ary to amotor an atterney to anients collection of case	omer agrees to pay interest thereon of to	or default at the
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CHANTABILITY FITNESS FOR A PART Products, supplies and materials and that the same are free fro and supplies to the products, supplies or majority in control of the products, and the products, supplies or majority in control to the products, supplies or majority in control to the products, supplies or majority on their returns to italiburities of, at Heiliburities' ability, in second, includental, indicated, punctive or consequential damaged.			

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JOB SATISFACTORILY COMPLETED?	TAX REFERENCES	
OPERATION OF EQUIPMENT SATISFACTORY?		
JOHN JOHNES		**
CUSTOMER OR HIS AGENT (PLEASE PRINT)	Larry Skir	heart

CERTIFY THAT THE FAIR LABOR STANDARDS T OF RESE, AS AMENDED HAS BEEN COMPLIED TH IN THE PRODUCTION OF GOODS AND OR

-

	DATE 8/29/85	DISTR	ICT 5	dug		F.	R.# 66	1594
SERVICES	OPERATOR_Me	sa Pet						
CEMENTING REPORT	LOCATION: SEC	22 BLC	NNSHIP _	28	1	SURVI BURNE	EY OR	7
	STAGE NUMBER				1	A	EX	HIBIT 15
BG/DP: Size 2/2 W	eight 6.4 Disp		Condu	ctor Sui	face	Int	Prod.	Liner
erforated Interval		Size	A	N 25			5/2	
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pen Hole Size		Thread		130	- C211	ুক ও		
age Collar Type		Capacity		-		35 3	8rd	
stimated Wash Out%		Depth		1	2) 41 f.	Jan.		
Sacks or	n of Cement and Spacer	Gals/sk H <sub>2</sub> O	Weigh Lb/Ga	t Yield	Pui	mp Time Hours	TOTAL Cu. Ft.	TOTAL Bbls.
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MIX MILA	17 /11						Cas	ing
A A A A I I SIE	Test lines.		3	0-	50		Cas	ing
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31 Note looked 32 Begin 6 Fresh 30 Kg = 1 gal 2 fresh	Behind Disp.	66/5@ 1.4 Mud	3	0-			Cas	ing
21 Note loaded 32 Begin 6 Fresh 30 Kg Flgal 2 Fresh 19 Join 140 Mix 2661	Behind Disp.						Cas	ing
21 Note loaded 22 Begin 6 Fresh 30 Kg Flgal 2 Fresh Pull 19 Join 16:40 Mix 2 661	Behind Disp.	1.4 mud	3	0-			Cas	ing
21 Note loaded 22 Begin 6 Fresh 30 Kg Flgal 2 Fresh Pull 19 Join 16:40 Mix 2 661	Behind Disp.	1.4 mud	3	0-			Cas	ing
21 Note loaded 32 Begin 6 Fresh 30 Kg Flgal 2 Fresh 19 Join 140 Mix 2661	Behind Disp.	1.4 mud	3	0-				ing
21 Note loaded 22 Begin 6 Fresh 30 Kg Flgal 2 Fresh 19 Join 140 Mix 2661	Behind Disp.	1.4 mud	3	0-				ing
21 Note loaded 22 Begin 6 Fresh 30 Kg Flgal 2 Fresh Pull 19 Join 16:40 Mix 2 661	Behind Disp.	1.4 mud	3	0-				ing
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Siet Sheet

Interview with Joe Simonson, Field inspector for Montana Board of Oil and Gas.

10/8/98

Purpose of the relief well was to take pressure off the SWD well as the disposal zone was overcharged. Cement job broke loose on the SWD well because of the increased pressure. No surface casing was set in the Judith River disposal well, he felt it was an engineering mistake because it was ok'ed by a Geologist, Herb Hadley, of the Montana board of Oil and Gas. To correct, set blow out preventors, run a spinner test to see if water is circulating and migrating. Had to build a dam around the injection well because water was blowing out all around it (the SWD) recemented the SWD, no control of water between the pipe and the surface. Couldn't recall the Dakota sand being overpressured, the Judith River was overpressured, common sense will tell you that they used the Judith River because it was cheaper to use.

Phone 406-377-6543, will be in California after 10/20/98, will leave his number at the MTBOG in Billings.

RECEIVED -> Counally-Means

# Sonosky. Chambers. Sachse & Endreson DEC - 3 1998

SUITE 1000

1250 EYE STREET, N.W. WASHINGTON, D.C. 20005 (202) 682-0240

TELECOPIER (202) 682-0249

December 2, 1998

Via Federal Express

USEPA RA'S OFFICE

ANCHORAGE OFFICE 900 WEST FIFTH AVENUE SUITE 700 ANCHORAGE, ALASKA 99501 (907) 258-8377

Telecopier (907) 272-8332

JUNEAU OFFICE 318 FOURTH STREET JUNEAU. ALASKA 99801 (907) 586-5880 Telecopier (907) 586-5883

OF COUNSEL ARTHUR LAZARUS. JR. ROGER W. DUBROCK (AE)\*

1000

'NOT ADMITTED IN D.C.

BARRY R. SACHSE

WILLIAM R. PERRY

REID PEYTON CHAMBERS

MYRA M. MUNSON (AR)\*

ANNE D. NOTO (MD)\*

MARY J. PAVEL (WA)\*

JAMES E. GLAZE (AR)

NACOLE D. HESLEP (AR)

COLIN C. HAMPSON

KYLE T. NAYBACE JAMES T. MEGGESTO AMY L. LOCKLEAR

DEVIN R. ODELL'

LLOYD BENTON MILLER (AR) DOUGLAS B.L. ENDRESON (WI)\*

KAY E. MAASSEN GOUWENS (AR)\*

MARVIN J. SONOSKY (1909-1997)

Mr. William Yellowtail Regional Administrator, Region 8 U.S. Environmental Protection Agency 999 18th Street, Suite 500 Denver, Colorado 80202

Dear Mr. Yellowtail:

We enclose a corrected copy of our letter of November 25, 1998 in which we have deleted the designations of "Privileged and Confidential - Attorney Work Product," which mistakenly appeared on the letter as originally sent. There are no other changes in the letter. Please substitute the enclosed for the letter previously transmitted to you.

Sincerely,

Douglas B. L. Endreson

DBLE/klw Enclosure

OFFICE OF ENFORCE STEWNROWNENT AL

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November 25, 1998

Via Federal Express

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Mr. William Yellowtail Regional Administrator, Region 8 U.S. Environmental Protection Agency 999 18th Street, Suite 500 Denver, Colorado 80202

Dear Mr. Yellowtail:

We serve as general counsel to the Assiniboine and Sioux Tribes of the Fort Peck Reservation ("Fort Peck Tribes" or "Tribes"). We write to request that the Environmental Protection Agency ("EPA") take immediate action pursuant to the Safe Drinking Water Act ("SDWA") to address groundwater contamination on the Fort Peck Indian Reservation ("Reservation").

The area that is subject to this request is: (a) the study area that is the subject of the United States Geological Survey ("USGS") report entitled Saline Water Contamination in Quarternary Deposits and the Poplar River, East Poplar Oil Field, Northeastern Montana (U.S. Geological Survey Water-Resources Investigations Report 97-4000) ("Report," attached hereto as Exhibit 1); and (b) the area to which the contamination has migrated or may migrate in the future as a result of groundwater movement. See Report at 25-28. The study area includes the East Poplar Oil Field ("Field") and an additional 40 square miles around the Field. Report at 2. We refer to this area below as either the "study area" or the "area in and around the Field."

As we set forth in greater detail below, contaminants, including chloride and dissolved-solids are present in, entering, and are likely to continue to enter the Quaternary deposits in and around the Field. As a result of groundwater movement, these contaminants are also migrating to areas that are not now contaminated. The Quaternary deposits are an underground source of drinking water as defined by 40 C.F.R. §144.3 and supply drinking water to persons living in and around the Field

and to the public water system in the City of Poplar. The presence and entry of such contaminants in the Quaternary deposits may present an imminent and substantial endangerment to the health of persons, and appropriate State and local authorities (if any) have not acted to protect the health of such persons.

Accordingly, we request that the EPA take immediate action under Section 1431(a) of the SDWA, 42 U.S.C. §300i(a), to protect the health of such persons, including but not limited to: (1) stopping all further contamination of the Quaternary deposits from active sources in and around the Field; (2) stopping the migration of contaminants into uncontaminated areas and any other underground sources of drinking water on the Reservation, and preventing the migration of such contaminants into the public water system in the City of Poplar; (3) seeking appropriate relief against the person or persons who caused or contributed to the contamination, including but not limited to injunctive relief to prevent further contamination; (4) requiring remediation of the effects of the contamination that has occurred, wherever it has occurred; (5) seeking on behalf of the Tribes compensatory damages for harm caused by the person or persons who caused or contributed to the contamination, restitution, and punitive and exemplary damages to the extent permitted by law.<sup>2</sup>

No owner or operator shall construct, operate, maintain, convert, plug, abandon, or conduct any other injection activity in a manner that allows the movement of fluid containing any contaminant into underground sources of drinking water, if the presence of that contaminant may cause a violation of any primary drinking water regulation under 40 CFR part 142 or may otherwise adversely affect the health of persons.

In these circumstances, EPA is required to take action to prevent further contamination. See 40 C.F.R. § 144.12(b). We assert these SDWA violations as an additional ground for the request set forth in this letter.

<sup>&</sup>lt;sup>1</sup> The companies involved in production activities in the study area are listed in the Report. <u>Id</u>. at 8.

The contaminating activities that are the subject of this request also violate the SDWA minimum requirements for underground injection programs promulgated by EPA pursuant to 42 U.S.C. § 300h(b). Specifically, it is apparent that owners and/or operators in the Field have violated 40 C.F.R. § 144.12(a) which provides that:

A. The Contamination of the Area in and Around the East Poplar Oil Field and the Migration of the Contamination as a Result of Groundwater Movement.

The Report sets forth the results of an extensive USGS investigation of saline-water contamination in and around the Field. To complete the investigation USGS reviewed existing data on water wells, monitoring wells, oil wells, brine-injection wells and ground and surface water quality. Report at 8-9; see also Hydrologic Data for the East Poplar Oil Field, Fort Peck Indian Reservation, Northeastern Montana (U.S. Geological Survey Open File Report 95-749) ("Report 95-749") attached hereto as Exhibit 2. The USGS also undertook substantial additional data collection efforts, including the completion of an electromagnetic geophysical survey, the installation of 27 monitoring wells, and the collection of groundwater data from over 100 wells. Report at 8-9; Report 95-749 at 5, 8-9.

The Fort Peck Tribes have also collected information concerning the contamination, both to supplement the Report and address questions raised by the EPA in a letter dated October 23, 1997 from the Director, Technical Enforcement Program, Office of Enforcement, Compliance, and Environmental Justice, Region VII to Mary J. Pavel of our office.<sup>3</sup> The information collected by the Tribes is described below and set forth on exhibits that are attached to this letter.

Contamination in the study area was described by USGS using four water-types. Type 1 water is not significantly contaminated and is similar to water in Quaternary deposits on other parts of the Reservation. Report at 16. Type 2 water contains dissolved-solids and chloride concentrations of from 1,170 to 8,860 mg/L and 330 to 4,800 mg/L, respectively, and was considered by USGS to be moderately contaminated. Id. Type 3 water has concentrations of dissolved-solids from 10,100 to 91,100 mg/L and of chloride from 5,200 to 58,000 mg/L, and is considered by USGS to be considerably contaminated. Id. Both Type 2 and 3 water contain concentrations which exceed the Secondary Drinking Water Standards for dissolved-solids and chloride, which are 500 mg/L and 250 mg/L respectively. 40 C.F.R. §143.3. Type 4 water represents the actual brine as injected in the Field. Id. Its chemical composition is sodium chloride. Id. It has dissolved-solids concentrations that range from 47,700 to 201,000 mg/L and chloride concentrations of from 27,000 to 120,000 mg/L. Id.

1. <u>Lateral Extent of Contamination</u>: The lateral extent of contamination in the Quaternary deposits was determined by USGS using water quality data from existing wells, data

<sup>&</sup>lt;sup>3</sup> EPA's October 23, 1997 letter indicated that additional information would be necessary in order for EPA to take action with regard to the Mesa Biere A-1 salt water disposal ("SWD") well. By this letter, we provide such information, renew our earlier request, and request that EPA take action in accordance with the more extensive request made by this letter.

from the electromagnetic geophysical survey, and data from monitoring wells installed by USGS after the electromagnetic survey was completed. Report at 21. The Report defined the contaminated groundwater plumes as either Type 2 or Type 3, depending on the type of water found in wells completed within the plume. This work showed that the lateral extent of the contamination may be as much as 12.4 sq. mi. <u>ld</u>. at 22. The contaminated areas in and around the Field are shown on Plate 3 attached to the Report.

Three Type 3 saline-water plumes were confirmed in the study area. <u>Id.</u> at 23. The USGS considered a Type 3 plume to have been confirmed if its presence was both identified by high electromagnetic apparent conductivity readings and verified by analysis of water samples from wells located in the plume. <u>Id.</u> at 22. These plumes contaminate an area that may be as much as 2.0 sq. mi. <u>Id.</u> at 23. The southern-most of the three confirmed Type 3 plumes has an area of .9 sq. mi. The Report describes this plume as follows:

The southern-most confirmed Type 3 saline-water plume has an area of 0.9 mi<sup>2</sup> and is located in the central and southern parts of sec. 21, the southwestern part of sec. 22, the northwestern part of sec. 27, and the northern part of sec. 28, T.28 N., R.51E. Water from two monitoring wells (FPB93-3 and FPB93-3A in this plume) completed in the top and the bottom of the saturated glacial deposits is Type 3 with chloride concentrations equal to or greater than 35,000 mg/L; water from two domestic wells (M-28 and M-31) completed in this plume is Type 3 with chloride concentrations equal to 7,900 mg/L and equal to or greater than 22,000 mg/L, respectively.

<u>Id</u>. In addition, possible Type 3 plumes covering an area of 3.2 sq. mi. were identified, meaning that the electromagnetic survey indicated the presence of a Type 3 plume, but that lack of water wells in the area prevented confirmation of this conclusion. <u>Id</u>.

<sup>&</sup>lt;sup>4</sup> Electromagnetic geophysical methods were used to map the distribution of contaminants in the study area. Report at 16-21. An electromagnetic geophysical survey "measure[s] the cumulative electrical conductivity of the soil and water matrix." <u>Id.</u> at 16. The unit of measurement used to report such conductivity is millimho per meter (mmho/m). <u>Id.</u> The correlation between conductivity and saline-water contamination is based in part on the higher conductivity of water with large concentrations of dissolved-solids. <u>Id.</u> at 18. This correlation is explained in the Report at pages 16-18. Table 3 of the Report shows the correlation between electromagnetic apparent conductivity and the three water types used in the Report. <u>Id.</u> at 17. Electromagnetic conductivity readings of greater than 50 mmho/m and greater than 70 mmho/m were considered high. Report at 17, Table 3.

The USGS confirmed four Type 2 saline-water plumes in the study area, meaning that moderate electromagnetic conductivity readings<sup>5</sup> delineating the plume as Type 2 were confirmed by analysis of samples from water wells within the plume. These plumes contaminate an area of 5.3 sq. mi. <u>Id.</u> at 22. In addition, possible Type 2 contamination -- again, a lack of water wells prevented confirmation -- was identified over an additional 1.9 sq. mi.

2. <u>Vertical Extent of Contamination</u>: The vertical extent of salt-water contamination in the Quaternary deposits was estimated based on water quality information from monitoring wells and private wells completed in the contaminated plumes. Report at 24. Three sets of monitoring wells, each containing a deep well and a shallow well completed in the Quaternary deposits, were used for this purpose. <u>Id</u>. With regard to the first two sets of monitoring wells the USGS described the results of this analysis as follows:

The vertical extent of a confirmed Type 3 contamination plume in T.29 N., R. 51 E., is delineated by two sets of wells located along the northern part of the plume. In the first set of wells, the deeper well FPB92-2A is 46 ft. deep and is perforated at 31-41 ft. below land surface, at the base of the alluvium; the shallower well, FPB92-2B was 27 ft. deep and was perforated at 12-22 ft. below land surface, within the top of the saturated alluvium (this well is now destroyed; Thamke and others, 1996, table 3). Water sampled from well FPB92-2A in July 1993 was Type 3 and had a dissolved-solids concentration of 46,100 mg/L, a chloride concentration of 35,000 mg/L, a density of 1.051 g/mL, and a specific conductance of 102,000  $\mu$ S/cm. Water sampled from well FPB92-2B during initial well development in September 1992 had a specific conductance of 17,600  $\mu$ S/cm. In the second set of wells, the deeper well FPB92-1 is 53 ft. deep and is perforated at 38-48 ft. below land surface, within the base of the alluvium; the shallower well, FPB93-2 is 27 ft. deep and is perforated at 18-27 ft. below land surface, within the top of the saturated alluvium. Water sampled from well FPB92-1 in July 1993 was Type 3 and had a dissolvedsolids concentration of 91,100 mg/L, a chloride concentration of 58,000 mg/L, a density of 1.060 g/mL, and a specific conductance of 127,000 µS/cm. Water sampled from well FPB93-2 in July 1993 was Type 2 and had a dissolved-solids concentration of 6,450 mg/L, a chloride concentration of 3,200 mg/L, a density of 1.004 g/mL, and a specific conductance of 12,300  $\mu$ S/cm.

Id.

<sup>&</sup>lt;sup>5</sup> Electromagnetic conductivity readings of greater than 40 mmho/m and greater than 60 mmho/m were considered moderate. Report at 17, Table 3.

The third set of these wells, FPB93-3 and FPB 93-3A, is located in the southern-most confirmed Type 3 plume in the study area. The USGS reported the following with regard to water quality from these wells and the vertical extent of the salt-water contamination indicated by this data:

In the third set of wells, the deeper well FPB93-3 is 81 ft deep and is perforated at 52-57 ft below land surface, at the base of the glacial deposits; the shallower well, FPB93-3A is 49 ft deep and is perforated at 41-46 ft below land surface, at the top of the saturated glacial deposits. Water sampled from well FPB93-3 was Type 3 and had a dissolved-solids concentration of 58,700 mg/L, a chloride concentration of 35,000 mg/L, a density of 1.046 g/mL, and a specific conductance of 98,600  $\mu$ S/cm. Water sampled from well FPB93-3A was also Type 3 and had dissolved-solids concentration of 63,500 mg/L, a chloride concentration of 38,000 mg/L, a density of 1.045 g/mL, and a specific conductance of 97,200  $\mu$ S/cm. The water-quality information from these two wells indicates that saline-water contamination is present throughout the entire depth of the saturated zone, and that the chloride concentrations decreased very slightly with depth. The density of water in this saline-water contamination plume varied insignificantly with depth in the glacial deposits.

#### Report at 24-25.

3. <u>Magnitude of the Contamination</u>: The magnitude of the contamination was also estimated by USGS. This was done using estimates of the saturated thickness of the Quaternary deposits for the lateral extent of the confirmed and possible Type 2 and 3 contaminated plumes. This produced an estimate of water possibly affected by the contamination of from 9-60 billion gallons or 27,600-184,000 acre feet. Report at 25.

#### 4. Sources of the Contamination.

a. <u>Brine as Probable Source</u>: The USGS concluded that brine from oil production in the study area was the probable source of salt-water contamination in the Quaternary deposits. Report at 33. This conclusion was based, in part, on the exclusion of other possible sources. Saline seeps were ruled out as a likely source due to differences between the chemical composition of such seeps and the contaminated ground water, and because "no saline soils and relatively few saline seeps have been mapped in the study area (U.S. Department of Agriculture, 1985; Miller and Bergantino, 1983)." <u>Id</u>. at 31. Water from the Bearpaw Shale was found not to be a likely source of the contamination for two reasons: first, a difference in water chemistry; and second, the impermeable nature of the Bearpaw Shale. <u>Id</u>. at 31. In contrast, brine is a byproduct

of oil production, which has been ongoing in the Field since 1952. <u>Id.</u> at 2, 31. As the USGS explained:

Brine is a byproduct of most crude-oil production activities. Most of this brine originates from intraformational dissolution of halite in the oil-producing zone which, in the East Poplar oil field study area, mainly is the Charles Formation of the Mississippian Madison Group. The major constituents in brine are sodium and chloride, a composition that is similar to contaminated ground water in the study area. The strong similarity in water chemistry indicates that brine is a likely source of saline-water contamination in the study area.

Id. at 31.

b. <u>Possible Sources of Brine Contamination in and around the Field</u>. The Report also identifies possible sources of contamination of the Quaternary deposits in the study area. Report at 31. The possible sources are: "brine-injection wells, oil-production wells, brine-evaporation pits, pipelines, storage tanks, and upward brine migration from subsurface zones through well casing or fractures, although no faults or fracture systems are known in the study area." <u>Id</u>. These possible sources are located throughout the study area, as shown on Plate 3 to the Report.

The seriousness of this potential problem is underscored by Table 2 of the Report which estimates that the amount of brine that has been injected in the Field ranges from 9.752 billion gallons (based on the average injection rate) to 14.821 billion gallons (based on the maximum injection rate). As Table 2 shows, this estimate is based on only 8 of the 20 brine injection wells in the study area, as injection rates were not obtained for the other 12 brine injection wells. It is therefore a conservative estimate.

c. Specific Source Areas: Probable sources of brine contamination were also identified by the Report. This was done by identifying and contouring areas within contaminated plumes that exhibited significantly higher electromagnetic geophysical measurements. For this purpose, USGS considered the electromagnetic apparent conductivity to be significantly high if the value was 20 mmho/m higher than that used to delineate subarea 3, an area that had exhibited high electromagnetic apparent conductivity readings. Applying this methodology, the

<sup>&</sup>lt;sup>6</sup> For a discussion of electromagnetic geophysical survey methods and the unit of measurement -- millimhos per meter -- used to report the conductivity measured by the survey, see note 4, supra.

Report delineated "areas around or downgradient from probable sources of brine contamination." Report at 31.

The areas of significantly high electromagnetic apparent conductivity are shown on Plate 3 attached to the Report. With regard to these areas, the USGS concluded that:

Probable specific sources may be located in or hydraulically upgradient of the areas of significantly high electromagnetic apparent conductivities. However, the areas of high electromagnetic apparent conductivity may not be all-inclusive; therefore, other specific source areas may exist.

#### Id. at 32. In addition, the Report concludes that:

Within the saline-water contamination plumes, the locations of significantly high electromagnetic apparent conductivity values generally are close to the locations of particular brine-injection wells, oil wells, pipelines, and storage-tank facilities. These areas appear to be probable specific source areas of the saline-water contamination.

<u>Id</u>. at 33. Thus, the Report specifically identifies probable specific sources of contamination.

# 5. Effects of Contamination of the Quaternary Deposits and Risks of Further Contamination.

The underground source of drinking water effected by the contamination is the Quaternary deposits, which supply drinking water to persons living in and around the Field and to the City of Poplar, which is located on the Reservation. The Quaternary deposits are an underground source of drinking water as defined by 40 C.F.R. § 144.3 and supply the public water system in the City of Poplar. As we show below, the contamination of groundwater in and around the Field threatens the public water system in the City.

a. The Area in and Around the East Poplar Oil Field: Wells completed in the Quaternary deposits are the sole source of developed ground water for persons living in and around the Field. Report at 14. In uncontaminated areas these wells provide potable water for domestic purposes. Id. The contamination of the only underground source of drinking water in

<sup>&</sup>lt;sup>7</sup> Few water wells are completed below the Quaternary deposits as the underlying Bearpaw Shale is 700-1000 feet thick and lacks water. Report at 14.

the study area has already had a substantial impact on persons living and visiting there. Water sampled from private wells by the USGS during the period from 1989-93 showed that 26 of 27 privately owned wells contained water that exceeded the SMCL for dissolved-solids, with concentrations ranging from 427 to 91,100 mg/L. <u>Id</u>. at 16. During the same period, chloride concentrations in 15 of the 27 wells exceeded the SMCL, with amounts ranging from 7.3 to 58,000 mg/L. <u>Id</u>. Much of this water is contaminated to the degree that it is unfit for human or livestock consumption.<sup>8</sup>

b. <u>City of Poplar</u>: The Quaternary deposits are also the sole source of underground drinking water for the City of Poplar, and are relied on to supply the public water system in the City. Contamination of groundwater in this area is threatened by movement of the contaminated plumes. The USGS determined that the lateral movement of the contaminated water is generally westward towards the Poplar Ravine and then Southward in the Poplar River Valley. Report at 25. This places the contamination on a path towards the City of Poplar.

Furthermore, groundwater in the Quaternary deposits moves towards the City on a path that goes through three of the four areas that USGS identified as an "area of significantly high electromagnetic apparent conductivity." See Report at 31-32 and Report, Plate 1, Figure 6. This designation was used by USGS to "delineate areas around or downgradient from probable sources of brine contamination." Report at 31. The southern-most of these three areas, and the closest to the City, is located within a confirmed Type 3 plume (see Report, Plate 1, Figure 6) which contains the highest levels of contamination of any of the confirmed Type 3 plumes. See id. at 22-24. This plume is located in the central and southern parts of sec. 21, the southwestern part of sec. 22, the northern part of sec 28, T.28N., R.51E. This plume is, furthermore, likely to contain active sources of contamination, as we show below. See infra at 10-15.

<sup>&</sup>lt;sup>8</sup> Water that is contaminated with dissolved-solids of more than 4,500 mg/L is considered unfit even for livestock watering purposes. See Exhibit 3, Reconnaissance of Ground-Water Resources of the Fort Peck Indian Reservation, Northeastern Montana (Report 91-4032), Sheet 2 of 2. Report 91-4032 describes a classification system for livestock watering based on dissolved-solids concentration in the water. The system was developed by Montana State College (now Montana State University) and sets out the following four classifications:

<sup>0 - 2,500</sup> mg/L, good 2,500 - 3,500 mg/L, fair 3,500 - 4,500 mg/L, poor Greater than 4,500 mg/L, unfit

Contamination of this area would effect the large number of people -- both residents and visitors -- who rely on the public water system in the City. In addition to its resident population, the City is also a center for substantial governmental and business activity. The Tribes' governmental offices are located within the City, including the Tribal Health Center and Headstart program.

The threat posed by the movement of contaminated groundwater plumes was dramatically shown by USGS in reviewing changes in water quality in two privately owned wells over a 4-6 year period. The USGS found that the water in these wells had changed from uncontaminated to considerably contaminated during this time:

Wells M-28 and M-31 are privately owned and completed in Quaternary deposits of a confirmed Type 3 plume located in the central and southern parts of sec. 21, the southwestern part of sec. 22, the northwestern part of sec 27, and the northern part of Sec. 28, T.28N., R.51E. (pl 3). Water collected from both wells during 1985 was uncontaminated. Water collected from well M-28 in 1989 was moderately contaminated. Water collected from well M-28 in 1991 and well M-31 in 1989 had become considerably contaminated. By 1993, water collected from well M-31 was similar to the brine produced from the oil field (Type 4). The increasing trend in dissolved-solids concentration in water from M-28 and M-31 may indicate that the source of the contamination was active during 1985-93. Because no further construction has occurred in this area (Debi Madison, Fort Peck Tribes, Office of Environmental Protection, oral commun., 1997), the source of the contamination may still be active.

#### Report at 25-26.

While we emphasize that a serious problem exists if even one homeowner is unable to obtain well water for domestic use, it is equally clear that the threat to the City posed by movement of the contaminated plumes is exponentially larger.

B. <u>Indications of Active Sources of Contamination</u>: The threat of further contamination is greatly enlarged by indications that active sources of contamination continue to contaminate the Quaternary deposits. More specifically, provisional water quality data obtained by the Tribes from the USGS shows that contamination is worsening in the southern-most confirmed Type 3 plume, which indicates that contamination is continuing. Water temperature data obtained by USGS in 1997 and 1998 and information gathered by the Tribes also indicates the existence of active sources of contamination in the same area.

1. Recent Water Quality and Temperature Data: Water samples collected from two monitoring wells, FPB93-3 and FPB93-3A, in 1997 and 1998 showed increases in both chloride and dissolved-solids concentrations in the period from 1993 to 1997 and 1998, when additional samples were collected. See Exhibit 4, USGS Provisional Data. In 1993, water sampled from FPB93-3 had a chloride concentration of 35,000 mg/L, and dissolved-solids concentration of 58,700 mg/L. Report at 24-25. Samples collected in 1997 and 1998 showed that chloride concentrations had increased to 37,000 mg/L (1997) and then to 40,000 mg/L (1998) and that dissolved-solids concentrations had increased to 64,400 (1997), to 67,900 (1997) and were at 67,100 mg/L in 1998. Exhibit 4. In 1993, water sampled from FPB93-3A had a chloride concentration of 38,000 mg/L and a dissolved-solids concentrations had increased to 40,000 mg/L (1997) and were at 39,000 in 1998 showed that chloride concentrations had increased to 40,000 mg/L (1997), and were at 39,000 in 1998, and that dissolved-solids concentrations had increased to 65,700 (1997), and were at 65,300 mg/L in 1998. Exhibit 4. This data indicates that in 1997-8, as in 1993, water from these wells had chloride and dissolved solids concentrations within the range of actual brine, which is Type 4 water. Report at 16.

The worsening contamination in this area indicates that it is continuing. Furthermore, the shallow and the deep monitoring wells in this area -- FPB93-3 and FBB93-3A -- continue to show the same contaminant levels. This indicates the presence of an active source of contamination in the area, as it did in 1993. The Report explains why this is so:

The water-quality information from these two wells indicates that saline-water contamination is present throughout the entire depth of the saturated zone, and that the chloride concentrations decreased very slightly with depth. The density of water in this saline-water contamination plume varied insignificantly with depth in the glacial deposits. The presence of dense, saline water of similar characteristics throughout the aquifer may indicate that the source of saline contamination may still be contributing saline water to the aquifer or that the source inputs are recent enough that an insufficient period of time has elapsed to develop vertical chloride and density gradients.

#### Report at 25.

In addition, the temperature data from these two wells continues to be consistent with the conclusion that the source of contamination in this area is active. In 1993, water sampled from FPB93-3 had a temperature of 18.0 degrees Celsius (Report 95-749, Table 6), while samples collected in 1997 and 1998 showed a temperature of 22.5 and 24.5 degrees Celsius, respectively. Exhibit 4. In 1993, water sampled from FPB93-3A had a temperature of 19.0 degrees Celsius, which in 1997 was 23.5 and in 1998 was 25.5 degrees Celsius. Exhibit 4.

2. <u>The Mesa wells</u>: The Tribes also obtained additional information that indicates that the source of the contamination in the southern-most Type 3 plume is either the Biere A-1 (SWD) well or the Biere 1-22 (producing) well, or both. These wells were operated by Mesa Petroleum and hence we refer to these wells as the "Mesa Biere A-1" and "Mesa Biere 1-22" wells.

We note initially that the identification of these wells as the probable source of contamination in this area is supported by the Report and the USGS Provisional Data. First, these wells are located within the southern-most of the three confirmed Type 3 plumes identified by USGS. Second, data from the two monitoring wells in this plume — FPB93-3 and FPB93-3A -- that are nested to the adjacent Mesa wells also points to the Mesa wells as an active source of contamination, as discussed above. Third, apart from the monitoring wells, the two Mesa wells are the only wells located within the area of significantly higher electromagnetic geophysical measurements that the USGS identified within this plume. As the Report indicates, this designation delineated "areas around or downgradient from probable sources of brine contamination." Id. at 31. The two Mesa wells are the only possible sources of contamination located within this area. See Report at 31 (identifying possible sources of brine contamination).

The additional information obtained by the Tribes supports these indications that the Mesa wells are an active source of contamination. We review the additional information concerning these two wells separately.

The Mesa Biere 1-22 well was completed on June 8, 1970, and produced oil from the Charles formation. See Exhibit 5, Log of Well, Montana Oil and Gas Conservation Commission. On July 18, 1984 Mesa filed a Notice of Intention to Abandon Well with the Montana Board of Oil and Gas Conservation. Exhibit 6. The "Details of Plan of Work" contained in the Notice of Intention to Abandon states that the well was to be plugged as follows:

Subject well is currently uneconomic to produce, and Mesa Petroleum Co. is proposing to plug subject well as follows: Well drilled to TD of 5845'; 5-1/2 casing set at 5845'. Well perforated at 5791'. Propose to set cast iron bridge plug at 5750', spot 25 sxs cement plug above CIBP. Perforate 5-1/2 casing 50' below 8-5/8" surface casing set at 741'. Squeeze 5-1/2 production casing with 50 sxs cement, leaving 20 sxs cement inside 5-1/2" casing. Spot 10 sxs cement plug at surface, set dry hole marker.

The "Details of Work Result" section of the Subsequent Report of Abandonment filed with the Montana Board of Oil and Gas Conservation, on September 26, 1984 (Exhibit 7) states that the Mesa Biere 1-22 well was plugged on September 17, 1984 as follows:

"squeezed with perfs at 5791 with 50 sxs cement. Top of cement at 5760. Perforated tubing at 5750, spotted 30 sxs cement inside and outside of tubing from 5435-5750. Perforated tubing from 993-996 and pumped 50 sxs cement down tubing, pumped 85 sxs cement down 5 ½ production casing. Pumped 220 sxs cement down 8 5/8 surface casing. Cut off casing 4 below ground level. Welded cap on 8 5/8 casing, dumped 10 sxs cement on top of cap. All casing and tubing was left in well."

#### Exhibit 7.

Differences between the "Details of Plan of Work" in the Notice of Intention to Abandon, and the "Detail of Work Result" in the Subsequent Report of Abandonment show that Mesa Biere 1-22 was not plugged in accordance with the original plan. This difference is highlighted by the actual use of 445 sxs cement when the plans called for 105 sxs cement.

Other records filed with the Montana Oil and Gas Conservation Commission show that the well was actually plugged on September 14 and 15, 1984. See Exhibit 8, Halliburton Invoice No. 858822, dated September 14, 1984; and Exhibit 9, Halliburton Invoice No. 960533, dated September 15, 1984. The invoice dated September 14, 1984 shows a mileage charge for two days and a pump charge for 5760 feet. Exhibit 8. The invoice for September 15, 1984, which was a Saturday, shows a mileage charge for 125 miles and a pump charge for 500 feet. Exhibit 9. There are no invoices on file that reflect work done on the well on September 17, 1984.

Additional information about the plugging of the well was obtained by the Tribes' Environmental Engineer Debi Madison through an interview conducted with Bill Strauser on February 1, 1998. See Exhibit 10. Mr. Strauser was a contract pumper for the Mesa Petroleum Company, and stated that he operated the Biere A-1 and the Salt Water Disposal Well. Mr. Strauser stated that, although he was not on site when the Mesa wells were plugged, he was aware that the producing well had a difficult plug and that water was surfacing around the well. He reported that Mesa then drilled along side the producing well and pumped cement into the well. Mr. Strauser stated that he was asked to monitor the pressure on a pipe that was subsequently placed on the well. He thought that Mesa had drilled to where they hit water flow and then pumped cement into the old well bore. See Exhibit 10.

<sup>&</sup>lt;sup>9</sup> The Mesa Biere A-1 well was the salt water disposal well. Mr. Strauser mistakenly referred to the Biere A-1 well and the salt water disposal well as separate wells.

The Strauser interview indicates that Mesa Biere 1-22 was not plugged in the manner indicated in the Notice of Subsequent Abandonment and that the well was not adequately plugged. In particular, the Notice of Subsequent Abandonment makes no reference to Mesa having drilled along the side of the producer to pump cement into it. The Strauser interview also establishes that as initially plugged, water was surfacing around Mesa Biere 1-22. See Exhibit 10. As the water in the Quaternary deposits is not under sufficient pressure to bring it to the surface, this indicates that Mesa Biere 1-22 was bringing brine to the surface, a violation of 40 C.F.R. § 144.12.

In addition, records filed with the Montana Oil and Gas Conservation Commission indicate that a "relief well" was completed in 1985. This is shown by Halliburton Invoice No. 251139-9, which describes work done for the relief well, which was identified with reference to "1-22 Biere." See Exhibit 14, Halliburton Invoice No. 251139-9, July 12, 1985. This invoice was filed with the Montana Oil and Gas Conservation Commission on July 23, 1985. Attached to that invoice is a Western Petroleum Services Cementing Report, dated August 29, 1985 which also describes work done on the "Biere 1-22 Relief Well." See Exhibit 15. The Tribes did not locate any information to show that the relief well was permitted. Nor did the Tribes find any indication that an updated plan for plugging and abandoning the Mesa Biere 1-22 well was filed. Cf. 40 C.F.R. § 144.28(k)(2).

The Tribes also obtained additional information that indicates that the Mesa Biere A-1 well was not properly plugged. This well was completed as a salt water disposal well on July 9, 1970, and was to be used for injection into the Judith River formation. Exhibit 11, Log of Well, Montana Oil and Gas Conservation Commission, dated July 17, 1970. Mesa proposed to plug the Biere A-1 well when the Biere 1-22 well was no longer economic to produce. See Exhibit 6, Notice of Intent to Abandon Well, Montana Board of Oil and Gas Conservation, dated July 18, 1984. With regard to the actual plugging of the well, the Notice of Subsequent Report of Abandonment, Montana Board of Oil and Gas Conservation, dated October 5, 1984 (Exhibit 12) states that the well was plugged on September 15, 1984 by "squeezing perfs with 140 sxs class "H" cement and filling 5-1/2 casing and tubing w/110 sxs Class "H" cement. Cut casing 4 ft. below ground level. Welded cap on casing." The same information was set forth on the Plugging Record, United States Environmental Protection Agency, dated January 11, 1985 (a copy of the plugging record is attached as Exhibit 13).

However, these reports concerning the Mesa Biere A-1 well are contradicted by information recently obtained by the Tribes. The Tribes Environmental Engineer, Debi Madison interviewed Joe Simonson, a retired Field Inspector for Montana Board of Oil and Gas on October 8, 1998 and acquired the following information. Mr. Simonson stated that the purpose of the relief well was to take pressure off the SWD well. He stated that the disposal zone, which was the Judith River, was overcharged. Mr. Simonson stated that the cement job broke loose on the SWD well because of the increased pressure. He further advised that no surface casing was set in the Judith River disposal well, which he felt was an engineering mistake. To correct the problem, blow out preventers were

set, and a spinner test was run to see if water was circulating and migrating. Simonson also stated that it was necessary to build a dam around the injection well because water was boiling out all around it. The SWD was then recemented. See Exhibit 16, Interview with Joe Simonson, retired Field Inspector for Montana Board of Oil and Gas dated October 8, 1998.

The Simonson interview indicates that the Mesa A-1 Biere well was not adequately plugged, that brine was surfacing at the Mesa Biere A-1 well in violation of 40 C.F.R. § 144.12(a), and that problems encountered with this well led to the completion of a relief well.

#### Conclusion

The presence of contaminants in the Quaternary deposits in and around the Field presents an imminent and substantial endangerment to the health of persons in and around the Field and threatens to contaminate the public water system relied on by the City of Poplar. There has been no action taken by State or local authorities to address this problem, and accordingly we request that the EPA do so through the exercise of its emergency powers under the Safe Drinking Water Act, specifically 42 U S.C. §300i(a). In addition, we request that EPA take action in response to this request in accordance with and as required by the provisions of 40 C.F.R. §144.12(b).

Sincerely,

Douglas B. L. Endreson

cc: Mr. Spike Bighorn, Chairman

#### **EXHIBITS**

- 1. Exhibit 1 U.S. Geological Survey Water-Resources Investigations Report 97-4000.
- 2. Exhibit 2 Hydrologic Data for the East Poplar Oil Field, Fort Peck Indian Reservation, Northeastern Montana, Open File Report 95-749.
- 3. Exhibit 3 Reconnaisance of Groundwater Resources of the Fort Peck Indian Reservation (Report 91-4032 obtain from Tribes).
- 4. Exhibit 4 USGS Provisional Data.
- 5. Exhibit 5 Log of Well, Montana Oil and Gas Conservation Commission, dated July 7, 1970.
- 6. Exhibit 6 Sundry Notice, Montana Board of Oil and Gas Conservation, July 18, 1984.
- 7. Exhibit 7 Subsequent Report of Abandonment filed with the Montana Board of Oil and Gas Conservation, on September 26, 1984.
- 8. Exhibit 8 Halliburton Invoice No. 858822, dated September 14, 1984.
- 9. Exhibit 9 Halliburton Invoice No. 96053\*, dated September 15, 1984.
- 10. Exhibit 10 Interview conducted with Bill Strauser on February 1, 1998.
- 11. Exhibit 11 Log of Well, Montana Oil and Gas Conservation Commission, dated July 17, 1970.
- 12. Exhibit 12 Notice of Subsequent Report of Abandonment, Montana Board of Oil and Gas Conservation, dated October 5, 1984.
- 13. Exhibit 13 EPA Plugging Report, dated January 11, 1985.
- 14. Exhibit 14 Halliburton Invoice No. 251139-9, July 12, 1985.
- 15. Exhibit 15 Western Petroleum Services Cementing Report, dated August 29, 1985 which also describes work done on the "Biere 1-22 Relief Well."
- 16. Exhibit 16 Interview with Joe Simonson, field inspector for Montana Board of Oil and Gas dated October 8, 1998.



REGION 8 999 18TH STREET - SUITE 500 **DENVER, CO 80202-2466** 

February 1, 1999

Mr. Dennis Whiteman Superintendent U.S. Bureau of Indian Affairs Fort Peck Agency P.O. Box 637 Poplar, MT 59255

> Re: Telephone request on February 1, 1999 to Stoney Aktel for map copies and certain petroleum lease information, Fort Peck Agency, Montana by Mr. Ken Phillips

Dear Mr. Whiteman:

The United States Environmental Protection Agency requests your assistance by providing us copy (s) of the following information:

- map illustrating the boundaries of all Trust and Fee lands within the East Poplar 1. field
- 2. current and historical lease and assignment records from 1975 to present covering sections 14, 20, 21, 22, 23, 26, 27, 28, T28N, R51E
- 3. ownership, lease and right-of-way information for the tank battery located in section 14 of T28N, R51E and associated gathering lines located in adjacent sections

We greatly appreciate your cooperation and timely response in this matter. Please send your copies and findings to the attention of: Carol Bowden at mail code 8ENF-T at the address shown on this letterhead.

Sincerely,

Connally E. Mears, Director

Technical Enforcement Program

bcc: Carol Bowden 8ENF-T

FCD:February 1,1999:Phillips\Windows\Desktop\Enforcement\Letter Request for info-BIA



## **UNITED STATES** DEPARTMENT OF THE INTERIOR **BUREAU OF INDIAN AFFAIRS**

P.O. BOX 637 **FORT PECK AGENCY** POPLAR, MONTANA 59255 OFFICE OF ENFORCENENT.

OFFICE OF ENFORCENENT.

FEB 1 ? 1999

COMPLIANCE SUSTICE

February 8, 1999

U.S. EPA R8-8ENS-T 949 18th Street, Suite 500 Denver, CO 80202

Attention: Ms. Carol Bowden

Dear Ms. Bowden:

We have enclosed the oil and gas lease information you requested by telephone February 10, 1999. Also enclosed is a map showing mineral ownership (red=tribal, blue=allotted and white=fee patented).

If you have any questions please contact Stoney Anketell at (406) 768-5112.

Sincerely,

**Enclosures** 



REGION 8
999 18TH STREET - SUITE 500
DENVER, CO 80202-2466

Ref:8ENF-T

FEB 1 8 1999

Ms. Donna Erwin - Director Office of Trust Funds Management United States Department of the Interior 505 Marquette NW, Suite 1000 Albuquerque, NM 87102

> Re: Request for oil and gas lease information, East Poplar Field, Fort Peck Indian Reservation, Montana

Dear Ms. Erwin:

The United States Environmental Protection Agency requests your assistance by providing us copies of oil and gas leases from present dating back to 1955 on certain acreage located within the Fort Peck Indian Reservation. It is our understanding that your office is presently the caretaker of this information.

This information is essential to the EPA as we are presently investigating a case of ground water contamination caused by salt water invasion, presumed to be from either production, enhanced recovery, or salt water disposal wells and/or collection lines in the area.

Legal Description: Sections 20, 27, 28; Township 28 North, Range 51 East; Fort Peck Agency, Montana.

We greatly appreciate your cooperation and timely response in this matter. Please send copies to the attention of: Carol Bowden at mail code 8ENF-T at the address shown on this letterhead.

Sincerely,

Connally E. Mears, Director

Technical Enforcement Program



REGION 8
999 18<sup>TH</sup> STREET - SUITE 500
DENVER, CO 80202-2466

Ref:8ENF-T

Ms. Donna Erwin - Director Office of Trust Funds Management United States Department of the Interior 505 Marquette NW, Suite 1000 Albuquerque, NM 87102

> Re: Request for oil and gas lease information, East Poplar Field, Fort Peck Indian Reservation, Montana

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This information is essential to the EPA as we are presently investigating a case of ground water contamination caused by salt water invasion, presumed to be from either production, enhanced recovery, or salt water disposal wells and/or collection lines in the area.

Legal Description: Sections 20, 27, 28; Township 28 North, Range 51 East; Fort Peck Agency, Montana.

We greatly appreciate your cooperation and timely response in this matter. Please send copies to the attention of: Carol Bowden at mail code 8ENF-T at the address shown on this letterhead.

Sincerely,

Connally E. Mears, Director Technical Enforcement Program





bcc: Carol Bowden

8ENF-T

FCD: February 17, 1999:Phillips\Windows\Desktop\Enforcement\Letter request for info-Office of Trust Funds Management, Department of the Interior



REGION 8 999 18<sup>™</sup> STREET - SUITE 500 DENVER, CO 80202-2466

EN.

EED I O IOCA

Ref: 8ENF-L

Douglas B.L. Endreson, Esq. Sonosky, Chambers, Sachse & Endreson 1250 Eye Street, N.W. Suite 1000 Washington, D.C. 20005 OFFICE OF ENEORCEMENT.

OFFICE OF ENEORCEMENT.

FEB 2 2 1999

COMPLIANCE & CHANGONMENTAL

RE: Fort Peck Indian Reservation Groundwater Contamination

Dear Mr. Endreson:

As you know, members of the Assiniboine and Sioux Tribes' Environmental Program and members of EPA Region VIII from both the Montana and Denver offices have had numerous technical contacts over the past year and more regularly in the past three months about groundwater contamination on the Fort Peck Indian Reservation. In fact, I believe that you, personally, have participated in recent teleconferences. EPA's goal in these recent discussions and in subsequent site specific inquiries has been to better understand the contamination issues so that we can then take appropriate steps to identify the responsible party(ies) and to alleviate the problem.

One of the enforcement mechanisms that EPA could possibly utilize is the issuance of a Safe Drinking Water Act Section 1431 Order to the offending party or parties. In order to issue such an order, EPA must, among other things, show that a contaminant may present an endangerment that is both imminent and substantial to human health. It is the level of endangerment that EPA seeks to define more precisely with the recent sampling.

Deb Madison assisted EPA in taking the samples on the Trottier well on January 27, 1999 and we, just yesterday, received verbal analytical results from Energy Labs. EPA technical staff, while awaiting the written results, are already meeting to discuss seriousness of the possible contaminants. Additionally, some of the oil lease information which Carol Bowden has requested has been received from the BIA and we are currently reviewing those documents. We have also requested copies of the remaining leases from the Poplar County Courthouse and the BLM National Archive and we are awaiting receipt of those documents.

Mr. B. L. Endreson, Esq. February 19, 1999 Page Two

It is EPA's desire to take appropriate measures in this case as quickly as we can. I will continue to be in contact with you regarding the case.

Sincerely yours,

James H. Eppers

Enforcement Attorney

cc: Mr. Spike Bighorn, Tribal Chairman

Ms. Deb Madison, Tribal Environmental Program Manager

Ms. Carol Bowden, 8ENF-T

Ms. Barbara Burkland, 8MO

Mr. William Engle, 8MO



# United States Department of the Interior

#### OFFICE OF THE SPECIAL TRUSTEE FOR AMERICAN INDIANS

Office of Trust Funds Management 505 Marquette N.W. Suite 1000 Albuquerque, New Mexico 87102

FEB 24 1999

Ms. Carol Bowden MC: 8ENF-T U.S. Environmental Protection Agency 999 18th Street - Suite 500 Denver, Colorado 80202-2466

Dear Ms. Bowden:

I received a letter dated February 18, 1999 from Connally E. Mears, Director, Technical Enforcement Program, requesting oil and gas leases for the East Poplar Field, Fort Peck Indian Reservation, Montana. The Office of Trust Funds Management does not maintain or have copies of oil and gas leases. By copy of this letter, your inquiry will be directed to the Bureau of Indian Affairs, Billings Area Office, Branch of Realty and the Fort Peck Agency Realty Office for action. Should you want to contact either office directly, the addresses and phone numbers are as follows:

Billings Area Office Branch of Realty 316 N 26th Street Billings, MT 59101

Fort Peck Agency Branch of Realty P.O. Box 637 Poplar, MT 59255

(406) 247-7943

(406) 768-5312

If you have any questions regarding this letter, please call Karen B. Foster, Management Analyst, at (505) 248-5723.

Sincerely,

Company of the Compan Donna Erwin, Director Office of Trust Funds Management

CC:

Billings Area Office w/ copy of incoming Ft. Peck Agency w/ copy of incoming Connally E. Mears, Director, Technical Enforcement Program

MAR 2 2 1999

#### LAW OFFICES

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JAMES E. GLAZE (AE)\*
COLIN C. HAMPSON
NACOLE D. HESLEP (AE)\*
KYLE T. NAYBACE
JAMES T. MEGGESTO\*

March 18, 1999

'NOT ADMITTED IN D.C.

AMY L. LOCKLEAR

DEVIN R. ODELL'

HARRY R. SACHSE

REID PEYTON CHAMBERS

MARVIN J. SONOSKY (1909-1997)

OFFICE OF ENERGEMENT.

COMPLIANCE & ENVIRONMENTAL

James H. Eppers Enforcement Attorney

United States Environmental Protection Agency

Region 8

999 18th Street, Suite 500

Denver, Colorado 80202-2466

Re: Fort Peck Indian Reservation Groundwater Contamination (B112.31)

Dear Mr. Eppers:

Thank you for your letter of February 19, 1999 reporting on EPA's actions in response to our request of November 25, 1998 submitted on behalf of the Assiniboine and Sioux Tribes of the Fort Peck Reservation ("Fort Peck Tribes"). See Letter to William Yellowtail, Regional Administrator, EPA Region 8, from Sonosky, Chambers, Sachse & Endreson dated November 25, 1998 (hereafter "November 25 request"). We had not heard anything from EPA since the teleconference held on January 21, 1999 and appreciate your advising us of the status of the matter. As I understand your letter, the preliminary work that must be concluded for EPA to take action in response to our November 25 request is nearing completion.

In this regard, during the January 21 teleconference I inquired whether EPA had any questions about our November 25 request. The only question raised was whether we had further information concerning the risk to health posed by the total dissolved solids (TDS) concentrations reflected in the water samples collected and analyzed by the United States Geological Service which are discussed in our November 25 request. In this regard, it was noted by EPA that TDS contamination was not subject to the primary drinking water regulations.

In response, I indicated that the 1974 House Report on the Safe Drinking Water Act makes it clear that EPA's power to take action under Section 1431 is not limited to enforcement of primary drinking water standards. As you know, the House Report expressly states "[t]he authority to take emergency action is intended to be applicable not only to potential hazards presented by contaminants which are

James H. Eppers Enforcement Attorney March 18, 1999 Page 2 of 2

subject to primary drinking water regulations, but also those presented by unregulated contaminants." See H.R. Rep. No. 1185, 93rd Cong., 2d Sess. (1974), reprinted in 1974 U.S.C.C.A.N. 6454, 6487 (copy attached).

Additionally, I pointed out that as our letter showed, water with TDS concentrations greater than 4,500 mg/L of TDS is considered unfit even for livestock watering purposes. See November 25 request at 9, n.8. I also expressed surprise, as did others, that any question might be raised by EPA about whether TDS contamination at the levels existing in the East Poplar Oil Field study area creates a health risk subject to protection under Section 1431. As you may know, at certain locations in the study area the TDS concentrations exceed that of sea water. No one seriously contends that sea water can be used as drinking water without posing serious health risks.

I also agreed to provide further information concerning these risks. In this regard, I refer you to EPA's having reported in 1974, in discussing the effects of sodium intake, that "[s]ix of 14 infants exposed to a sodium concentration of 21,140 mg/L died when salt was mistakenly used for sugar in their formula." EPA-570/9-76-003, National Interim Primary Drinking Water Regulations, promulgated 12-24-75, Appendix A at 120 (copy attached). As you know, sodium concentrations in water samples from the East Poplar Oil Field study area exceed the concentration level cited in this report. Other serious health risks posed by excessive sodium intake are also discussed in EPA's 1974 report. This would seem to be dispositive of the question of whether the sodium concentrations in the East Poplar Oil Field study area present an imminent and substantial endangerment to the health of persons.

Finally, as you know, our request for action by EPA is not limited to requesting that EPA seek to halt the saline-water contamination ongoing on the Reservation. Rather, we have asked EPA to address contamination throughout the East Poplar Oil Field Study area, and to take action to stop further contamination, to require remediation of the existing effects of contamination that has occurred, and to obtain redress on behalf of the Fort Peck Tribes for that contamination. The basis for this request is the ongoing violations of the SDWA as set forth in our November 25 request. If you have any questions about this, or any other part of our November 25 request, please let me know.

Sincerely,

Douglas B. L. Endreson

Enclosure

cc: Mr. Spike Bighorn, Chairman

Ms. Debi Madison, Tribal Environmental Engineer

EPA-570 /9-76-003 National Interin Primary Drinking Water Regard of

DRINKING WATER RECULATIONS Presently still 12-24-75

Man's intake of sodium is mostly influenced by the use of salt, Intake of addium chloride for American males is estimated to be 10 grams per day, with a range of 4 to 24 grams (1). This would be a sodium intake of 1600 to 9600 mg per day. Intake of these amounts is considered by most to have no adverso effect on normal individuals. Even Dahl, who has been one of the strong advocates of the need for restricting salt intake, has felt that an intake of 2000 mg of sodium could be allowed for an adult without a family history of hyertension. Intake of sodium from hospital "house" diets has been measured recently (2). The sodium content of a pool of 21 consecutive meals that were seasoned by the chef or the dietitian from twenty selected general hospitals was determined each quarter. The average sodium intake per capita per day was 3625 \* 971 (SD) milligrams. The intake could be greatly changed between individuals who never add salt to the food at the table and the individuals who always add salt even before tasting.

The taste threshold of sodium in water depends on several factors (3). The predominant anion has an effect; the thresholds for sodium were 500 mg/l from sodium chloride, 700 mg/l from sodium nitrate, and 1000 mg/l from sodium sulfate. A heavy salt user had a threshold of taste that was 50 percent higher, and the taste was less detectable in cold water.

Six of 14 infants exposed to a sodium concentration of 21, 140 mg/l died when salt was mistakenly used for sugar in their formula (4). Sea water would have about 10, 000 mg/l of sodium.

Severe exacerbation of chronic congestive heart failure due to sodium in water has been documented (3). One patient required hospitalization when he changed his source of domestic water to one that had 4200 mg/l sodium. Another patient was readmitted at two-to-three-week intervals when using a source of drinking water of 3500 mg/l sodium.

Sodium-restricted diets are used to control several disease conditions of man. The rationale, complications, and practical aspects of their use were reviewed by a committee on food and nutrition of the National Research Council (5). Sodium-restrictive diets are essential in treating congestive cardiac failure, hypertension, renal disease, circhosis of the liver, toxemias of pregnancy, and Meniere's disease.

Hormone therapy with ACTH and cortisone is used for several diseases. Sodium retention is one of the frequent metabolic consequences following administration of these therapeutic agenta, and audium-restricted dieta are required, especially for long periods of treatment. More recent medical text books continue to point out the usefulness of sodium-restricted diets for these several diseases where fluid retention is a problem (6).

When disease causes fluid retention in the body, with subsequent edema and ascites, there is a diminished urinary exerction of sodium and of water. If the sodium intake is restricted in these circumstances, further fluid retention will usually not occur, and the excess water ingested will be excreted

APPENDIX A- DRINKING WATER REGULATIONS

In the urine because the mechanisms that maintain the concentration of sodium in the extracellular fluid do not permit the retention of water without sodium.

Almost all foods contain some sodium, and it is difficult to provide a nutritionally adequate diet without an intake of about 440 mg of sodium per day from food; this intake would be from the naturally occurring sodium in food with no salt added. The additional 60 mg that would increase the intake to the widely used restricted diet of 500 mg per day must account for all non-nutrition intake that occurs from drugs, water and incidental intakes. A concentration of sodium in drinking water up to 20 mg per liter is considered compatible with this diet. When the sodium content exceeds 20 mg/l, the physician must take this into account to modify the diet or prescribe that distilled water be used. Water utilities that distribute water that exceeds 20 mg/l must inform physicians of the sodium content of the water so that the health of consumers can be protected. About 40 percent of the water supplies are known to exceed 20 mg/l and would be required to keep physicians informed of the sodium concentration [7]. Most of the State health departments have made provision for determining the sodium content of drinking water on a routine basis and are now informing physicions in their jurisdiction (8). If change of source or a treatment change such as softening occurs that will significantly increase the sodium concentration, the utility must be sure that all physicians that care for consumers are aware of the impending change, Dieta prescribing intakes of less than 500 mg per day must use special foods such as milk with the sodium reduced, or fruits that are naturally low in sodium.

It is not known how many persons are on andium-restricted diets and to what extent the sodium intake is restricted. To reduce edema or swelling, the physician may prescribe a diuretic drug, a sodium-restricted diet, or a combination of the two. Therapy, of course, depends on the patient's condition, but there are also regional differences that probably result from physician training. The American Heart Association (AHA) (9) feels that diuretics may allow for less need of very restricted diets and that diurectics are necessary for quick results in acute conditions. For long-term, use. a sodium-restricted diet is simpler, safer, and more economical for the patient. It is preferable, especially when a moderate or mild sedium-restricted diet will effectively control the patient's hypertension and water rotention. Literature is provided to physicians by the AllA to distribute to their patients explaining the sodium-restricted dieta. These cover the "strict" restriction - 500 mg, sodium, "moderate" restriction - 1000 mg sodium, and the "mild" restricted diet-2400 to 4500 mg sodium. From 1958 through June 1971, there were 2,365,000 pieces of this literature distributed: 37% - 500 mg; 34% - 1000 mg; and 29% - "mild" (10). There are many wave a physician can counsel his patients other than using this literature, so the total distribution does not reflect the extent of the problem, but the proThe AllA estimates that hypertension affects more the 2 million Americans, and in more than half of these cases put enough strain on the heart to be responsible for the development of hypertensive heart disease (11). Congestive heart failure is a sequelae of several forms of disease that damage the heart and would affect some unknown portion of the 27 million persons with cardiovascular disease. Thus, from 21 to 27 million Americans would be concerned with sodium intake.

Toxemiss of pregoncy are common complications of gestation and occur in 6 to 7 percent of all pregnancies in the last trimester (12). Thus, about 230,000 women would be very concerned with sodium intake each year. Other diseases are treated with restricted sodium intake, but no estimate can be made on the number of people involved.

Questions about salt usage were asked on the ninth biennial examination of the National Heart Institute's Framingham, Massachusetts Study (13). The study population was free of coronary heart disease when the study began in 1949 and now are over 45 years of age. There were 3,833 respondents, Forty-five percent of the males and 30 percent of the females reported that they add salt routinely to their food before tasting. But at the other extreme, 9 percent of the men and 14 percent of the women avoid salt intake. More of the people 60 and over avoid salt intake than the 45 to 59 population. It is not determined if the salt restriction was medically prescribed nor how extensively the sodium intake was restricted.

It can be seen that a significant proportion of the population needs to and is trying to curtail its sodium intake. The sodium content of drinking water should not be significantly increased for frivolous reasons. This is particularly true of locations where many of the people using the water would be susceptible to adverse health effects, such as hospitals, nursing homes, and retirement communities. The use of sodium hypochlorite for disinfection, or sodium fluoride for control of tooth decay, would increase the sodium content of drinking water but to an insignificant amount. The use of sodium compounds for corrosion control might cause a significant increase, and softening by either the base exchange or lime-sods ash process would significantly increase the sodium contentof drinking water. For each milligram per liter of hardness removed as calcium earbonate by the exchange process, the sodium content would be increased about one-half mg per liter. The increase in excess lime softening would depend on the amount of sods ash added. A study in North Carolina found that the sodium content of 30 private well-water supplies Increased from 110 mg/l to 269 mg/l sodium on the average after softening (14). The sodium content of the softened water was much higher shortly after the softener had been regenerated than later in the cycle. A case has been reported where a replacement element type softener was not flushed, and the drinking water had a sodium content of 3,700 mg/l when the unit was put back in service.

As a further deterrent to softening of water, it should be noted that there is considerable evidence of an inverse relationship between water hardness and certain cardiovascular diseases. Research in the area is being accelerated to determine cause and effect relationships. Until the full significance of water hardness is known, and because of the increase in sodium content of softened waters, utilities should carefully consider the consequences of installing softening treatment.

All consumers could use the water for drinking if the sodium content was kept below 20 mg per liter, but about 40 percent of the U.S. water supplies have a natural or added sodium content above this concentration (7). Many industrial wastes and runoff from deiced highways may increase the sodium pollution of surface water (15). The problem is most acute when ground water is polluted with sodium (16, 17) because it remains for a long time. Removal of sodium from water requires processes being developed by the Office of Saline Water (18) and are economically feasible only in certain situations.

The person who is required to maintain a restricted sodium intake below 500 mg per day can use a water supply that contains 20 mg or less sodium per liter. If the water supply contains more sodium, low sodium buttled water or specially treated water will have to be used. In the moderately restricted diet that allows for a consumption of 1000 mg sodium per day the food intake is essentially the same, but the diet is liberalized to allow the use of 1/4 teaspoon of salt, some regular bakery bread, and/or some salted butter. If persons on the moderately restricted diet found it necessary to use a water with a significant sodium content they could still maintain their limited sodium intake with a water containing 270 mg/liter. This would require allocating all the liberalized intake to water (the original 20 mg/l and 250 mg/l more with two liter domestic use, drinking or couking, per day). High sodium in water causes some transfer of sodium to foods cuoked in such water (5).

It is easential that the sodium content of public water supplies be known and this information be disseminated to physicians who have patients in the service size. Thus, diets for those who must restrict their sodium intake can be designed to allow for the sodium intake from the public water supply or the persons can be advised to use other sources of drinking water. Special efforts of public notification must be made for supplies that have very high sodium content so that persons on the more restricted sodium intakes will not be overly stressed if they occassionally use these water supplies.

The 1963 Sodium Survey (7) had the following percent distribution of sodium concentration from 2100 public water supplies:

Range of Sadium Ion Concentration	Persent of To Samples
<b>□g/</b> ]	%
0 - 19.9	58.2
20 - 49,9	19.0
50 + 99,9 100 - 249,9	29
250 - 399.9	8.7
400 - 499,9	3.6
500 - 999.9	0.5 0.7
Over 1000	۵,

While the question of a maximum contaminant level for sedium is still under consideration by the National Academy of Sciences and others, no specific level will be proposed for the Interim Primary Drinking Water Regulations. The Environmental Protection Agency believes that the available data do not support any particular level for sodium in drinking water, and that the regulation of sodium by a maximum contaminant level is a relatively inflexible, very expensive means of dealing with a problem which varies greatly from person to person,

#### . REFERENCES

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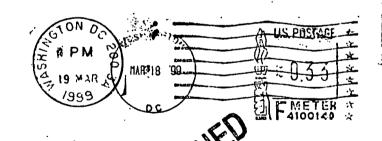
### APPENDIX A-DRINKING WATER RECULATIONS

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#### LAW OFFICES

Sonosky, Chambers, Sachse & Endreson

SUITE 1000 1250 EYE STREET, N.W. WASHINGTON, D.C. 20005





REGION 8 999 18<sup>TH</sup> STREET - SUITE 500 DENVER, CO 80202-2466

MAR | 9 1999

Ref: 8ENF-L

By FAX at 202-682-0249 and U.S. Mail

Douglas B.L. Endreson, Esq. Sonosky, Chambers, Sachse & Endreson 1250 Eye Street, N.W. Suite 1000 Washington, D.C. 20005 May 1889 Jahren

RE: Fort Peck Indian Reservation Groundwater Contamination

Dear Mr. Endreson:

I am writing to you to give you a quick update as to current steps being taken. Last Tuesday and Wednesday, well water samples were taken on the Buckles, Trottier and Ricker residence wells. This testing was coordinated by the Tribes' Environmental Program Manager Deb Madison and EPA staff. The samples are now at Energy Labs in Billings and we expect to receive the results no later than the middle of next week.

As I stated in a prior correspondence, it is a priority of EPA's to take appropriate measures in this case as quickly as we can. EPA believes that significant progress is being made in getting necessary answers relating to the groundwater contamination. I also understand that ultimate resolution can not happen fast enough for many people. I will continue to update you regarding the progress of this case.

Sincerely yours,

James H. Eppers

Enforcement Attorney

cc: Carol Bowden - 8ENF-T

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**REGION 8** 

999 18<sup>TH</sup> STREET - SUITE 500 DENVER, CO 80202-2466 http://www.epa.gov/region08

# CERTIFIED MAIL RETURN RECEIPT REQUESTED

SEP | 5 | 1999

Ref: 8ENF-T

Spike Bighorn, Chairman Fort Peck Tribal Executive Board P.O. Box 1027 Poplar, Montana 59255

Dear Chairman Bighorn:

The purpose of this letter is to consult with you regarding a proposed enforcement action by the United States Environmental Protection Agency (EPA) against non-tribally owned or operated facilities located within the exterior boundaries of the Ft. Peck Reservation. Within the next few weeks, EPA Region VIII is planning to issue a Proposed Administrative Order to Williston Industrial Supply Company (WISCO) for alleged violations of the Safe Drinking Water Act and Underground Injection Control regulations. The Order will compel the company to comply and will assess penalties. A copy of the Order will be sent to you as it is issued.

We encourage your input and sharing of additional information in this matter by September 24, 1999. Please do not hesitate to write, or call me at 303/312-6051, if you have any questions or concerns. If your staff has questions or information to share, the most knowledgeable person on these issues is Carol Bowden at (303) 312-6485. I appreciate your partnership with EPA as we work together to protect public health and the environment.

Sincerely,

Carol Rushin

Assistant Regional Administrator Office of Enforcement, Compliance and Environmental Justice.

cc: Deb Madison, Environmental Program Manager
Ft. Peck Reservation
Sadie Hoskie, TAP
Wendy Thomic TAP

Wendy Thomi, TAP Carol Bowden, TEP



REGION 8
999 18<sup>TH</sup> STREET - SUITE 500
DENVER, CO 80202-2466
http://www.epa.gov/region08

SEP 3 0 1999

Ref: 8ENF-T

<u>CERTIFIED MAIL</u>
RETURN RECEIPT REQUESTED

Murphy Exploration & Production Company CT Corporation System 40 West Lawrence, Suite A Post Office Box 1166 Helena, Montana 59624-1166

> RE: Emergency Administrative Order under Section 1431 of the SDWA Docket No. SDWA-8-99-68

Dear Sir:

Enclosed is an Emergency Administrative Order issued under Section 1431 of the Safe Drinking Water Act (SDWA), 40 U.S.C. The Order is based on contamination of the ground water in and around the area of the East Poplar Oil Field within the boundary of the Fort Peck Indian Reservation in Roosevelt County, Montana. EPA has identified the presence of the contaminant benzene and a substantial increase in the total dissolved solids levels in the Quaternary Deposits. The presence of these contaminants in the Quaternary Deposits, an Underground Source of Drinking Water (USDW), may present an imminent and substantial endangerment to the health of local residents who drink and use this water. EPA has also determined that the Respondents of the Order, through the operations of their oil and gas production facilities in the East Poplar Oil Field, have caused or contributed and/or are continuing to cause and contribute to the endangerment of the USDW.

The enclosed Order sets forth the actions that you must take to, among other things, ensure that the people served by the USDW are provided with safe drinking water. You must immediately take the actions required by this Order and the penalties for failing to comply are set forth in the Order. The Order requires that you provide temporary safe drinking water to identified residences, submit cleanup and permanent alternative water supply proposals, submit well, tank, pipeline and pit information, and submit geologic and hydrologic field information.

The issuance of this Order is consistent with EPA's goal of protecting human health and the environment, and working to ensure the provision of safe drinking water to the affected residents. With regard to this Order, please contact Carol Bowden at 303 312-6485 or write Ms. Bowden at the address provided above, mail code 8-ENF-T.

Sincerely,

Camely E, hears

Connally E. Mears, Director Technical Enforcement Program Office of Enforcement, Compliance and Environmental Justice

#### Enclosure

cc: Ray K. Eder, Acting Chairman, Fort Peck Tribal Executive
Board

Deb Madison, Assiniboine and Sioux Tribes Environmental
Program Manager

Douglas Endreson, Tribal Counsel, Assiniboine and Sioux
Tribes

George Hudak, Montana Board of Oil and Gas Conservation

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Pioneer Natural Resources Company 1400 Williams Square West 5205 North O'Connor Blvd. Z 23882755B

Irving, TX 75039

2-238.827 551

Pioneer Natural Resources Company c/o Pioneer Natural Resources USA, Inc. CT Corporation System 40 West Lawrence, Ste A Post Office Box 1166 Helena, Montana 59624-1166

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Pioneer Natural Resources Company c/o Pioneer Natural Resources USA, Inc. CT Corporation System 40 West Lawrence, Ste A Post Office Box 1166 Helena, Montana 59624-1166

Pioneer Natural Resources Company c/o Pioneer Natural Resources USA, Inc. CT Corporation System 40 West Lawrence, Ste A Post Office Box 1166 Helena, Montana 59624-1166

W.R. Grace & Company- Conn. Prentice-Hall Corporation System Inc. Post Office Box 1691 Helena, Montana 59624-1691 7 238 827 558

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Murphy Exploration & Production Company CT Corporation System 40 West Lawrence, Suite A Post Office Box 1166 Helena, Montana 59624-1166

Murphy Oil USA, Inc.
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Murphy Oil USA, Inc. CT Corporation System 40 West Lawrence, Suite A Post Office Box 1166 Helena, Montana 59624-1166

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Pioneer Natural Resources Company
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Irving, TX 75039

next page

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Murphy Oil Corporation Corporation Trust Company Corporation Trust Center 1209 Orange Street Wilmington, Delaware 19801

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Murphy Oil Corporation Corporation Trust Company Corporation Trust Center 1209 Orange Street Wilmington, Delaware 19801

Murphy Oil Corporation Corporation Trust Company Corporation Trust Center 1209 Orange Street Wilmington, Delaware 19801

AMARCO Resources Corporation . S.O.S. 2920 One Main Place Dallas, TX 75250

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AMARCO Resources Corporation S.O.S. 2920 One Main Place Dallas, TX 75250

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Murphy Exploration & Production Company CT Corporation System
40 West Lawrence, Suite A
Post Office Box 1166
Helena, Montana 59624-1166

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Marathon Oil Company CT Corporation System 40 West Lawrence, Suite A Post Office Box 1166 Helena, Montana 59624-1166

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Marathon Oil Company CT Corporation System 40 West Lawrence, Suite A Post Office Box 1166 Helena, Montana 59624-1166

Marathon Oil Company CT Corporation System 40 West Lawrence, Suite A Post Office Box 1166 Helena, Montana 59624-1166 J.A. Evans, Registered Agent
Marathon Oil Company
539 South Main Street
Findlay, Ohio 45840-3295

P 380306891

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Mike Mueller, Branch Manager Marathon Oil Company 1501 Stampede Avenue Cody, Wyoming 82414-4721

P380306891

J.A. Evans, Registered Agent Marathon Oil Company 539 South Main Street Findlay, Ohio 45840-3295

Mike Mueller, Branch Manager Marathon Oil Company 1501 Stampede Avenue Cody, Wyoming 82414-4721

J.A. Evans, Registered Agent Marathon Oil Company 539 South Main Street Findlay, Ohio 45840-3295

Mike Mueller, Branch Manager Marathon Oil Company 1501 Stampede Avenue Cody, Wyoming 82414-4721





5555 San Felipe (77056-2725) P.O. Box 4813 (77210-4813) Houston, Texas Telephone 713/296-2533 Fax 713/296-2581

October 6, 1999

Certified Mail P 412 203 812 Return Receipt Requested

U. S. Environmental Protection Agency Sent Via Fax (303) 312-6409
Office of Enforcement, Compliance and Environmental Justice
Technical Enforcement Program (8ENF-T)
999 18<sup>th</sup> Street, Suite 500
Denver, Colorado 80202-2466

Attn: Carol Bowden

Re: Emergency Administrative Order under Section 1431 of the SWDA Office of Docket No. SDWA-8-99-68
Mail Code 8-ENF-T

Compliance

Dear Ms. Bowden.

This letter is in response to the EPA Emergency Administrative Order(EAO) Marathon Oil Company received on October 5, 1999. The EAO requests that Marathon, along with several other companies identified in the EAO, agree to provide temporary safe drinking water to those residents named in the EAO. Marathon is asked to provide water that meets the EPA drinking water standards for drinking and cooking in the quantity of one gallon per person per day in each residence.

Marathon is dedicated to environmental compliance and recognizes the need to protect residents from any potential environmental exposure. Although Marathon does not believe it has either caused or contributed to any of the present contamination, Marathon will participate with the other named respondents to supply drinking water as requested until this matter can be resolved with the agency. Therefore, in complying with the EAO Marathon does not admit liability in this matter, nor does Marathon waive any of Marathon's legal rights to either an administrative or judicial review, hearing, appeal, and settlement negotiations. Marathon's agreement to supply the drinking water is not an admission of responsibility for any of the contamination present at the current site.

The EAO also requests Marathon provide (1) cleanup and permanent alternative water supply proposals, (2) submit well, tank, and pipeline information, and (3) provide

geologic and hydrologic field information. It is Marathon's understanding of the EAO that this information must be provided in 120 days from the date Marathon received the EAO (i.e. October 5, 1999). Marathon objects to Section B of the EAO (page 13 or the EAO and Item 1 above) and is unable to comply with this request until it is established that Marathon has caused or contributed to the present contamination at the site. Marathon will gather and submit the remaining information requested in the EAO to the extent that such information is available in Marathon records or is accessible to Marathon. However, Marathon does not admit liability or responsibility for any of the contamination at this site by producing the requested documents and information. In addition, if Marathon can show that Marathon has not contributed to the present contamination Marathon will submit this information to the agency.

Marathon is dedicated to environmental compliance and is a good corporate citizen. We look forward to amicably resolving this issue in the near future. Please feel free to contact either C. J. Walker at 713-296-2533 or Patrick Pitet at 307-527-3275 to discuss this site.

1/1/1/

incerely

ndance .V. Walker, Esc

Patrick Pitet, Esq.

d M. Cleary Senior Environmental Counsal

Remodiation Management Department

W. R. Grace & Co. 6401 Poplar Avenue - Suite 301 Memphis, TN 38119-4840

Telephone: (901) 820-2039 Fortstmile: (901) 820-2059

E-mall: David, Cleary@grace.com

Office of Enforcement

0CT 07 1999

Compliance & Env. Justice

October 7, 1999

Carol Bowden U.S. Environmental Protection Agency Office of Enforcement, Compliance, and Environmental Justice Technical Enforcement Program (8ENF-T) 999 18th Street, Suite 500 Denver, Colorado 80202-2468

Subject: Emergency Administrative Order, Docket #SDWA-8-99-68

Dear Ms. Bowden:

This letter is written in response to paragraph 3, of the above-captioned Emergency Administrative Order (the "Order") requiring Grace to contact you within 48 hours of receipt of the Order to advise you of Grace's Intent to comply with the Order.

As you know, respondents have a right to seek review of the Order, and considering Grace has not had a presence at the alleged site for about 13 years and is unable to verify at this time any fact alleged by EPA in the Order, we cannot give EPA any binding indication of our intentions in such a short time frame.

Nonetheless, and without waiving any of Grace's rights to the contrary, Grace's position regarding any unilateral order issued by EPA is to cooperate with the Agency to the fullest extent possible.

The cooperation of other Respondents to the Order is also of critical importance to us. I request that EPA distribute a point-of-contact list (of EPA personnel and Respondents) immediately so that Grace can investigate this matter and execute its obligations under the Order, such as they are, in a timely fashion.

David M. Cleary

Ken Lund, Esq. - Holme Roberts Nathan Wiser, Esq. - USEPA Region 8 Robert Sterup - Dorsey & Whilney

CC;

Post-It" brand fax transmittal memo 7671

anol Bowden Dept.



200 PEACH STREET (71730) P.O. BOX 7000 EL DORADO, ARKANSAS 71731-7000

LAW DEPARTMENT

TELEPHONE: (870) 864-6-485\_

FAX: (870) 864-6489

October 7, 1999

Via Certified Mail and Facsimile

Ms. Carol Bowden
U.S. Environmental Protection Agency
Office of Enforcement, Compliance and Environmental Justice
Technical Enforcement Program (8ENF-T)
999 18<sup>th</sup> Street, Suite 500
Denver, CO 80202-2466

RE:

Emergency Administrative Order (the "Order")

Docket No. 8-99-68

Dear Ms. Bowden:

Murphy Oil USA, Inc., Murphy Exploration & Production Company, and Murphy Oil Corporation (hereinafter collectively referred to as "Respondents") are in receipt of the EPA's Emergency Administrative Order ("Order") in the above-referenced matter. The Murphy Oil USA, Inc. and Murphy Oil Corporation that were served have never had any interest in Roosevelt County, Montana, and consequently are not proper parties to any action concerning any alleged contamination in such county. Murphy Exploration & Production Company ("Murphy") has conducted operations in Roosevelt County.

This letter constitutes formal notice, pursuant to paragraph 3 of the above-referenced Order, that Murphy intends to comply with all lawful terms of the Order. Specifically, Murphy agrees to make arrangements for the provision of a temporary alternative source of drinking water which meets EPA drinking water standards, in the amount of one gallon per person per day, for each of the residences set forth in the table included in Paragraph 1.A. of the Order. In order to comply with this portion of the Order, please advise me by facsimile at 870-864-6489 of the number of persons residing at each residence. Upon receipt of that information, Murphy will provide EPA with confirmation of the logistical details pertinent to the provision of such water in a subsequent communication.

Murphy notes that the provisions of the Order are based upon data and other information which is essential for the evaluation and development of responses to the Order and which has not been made available to Murphy as of the date of this letter. Murphy has communicated this point to Mr. James Eppers of your office and efforts are underway to obtain further information. In providing this notice, Respondents do not admit any of the allegations set forth in the Order nor do they intend to waive their rights under applicable law to contest or appeal the Order and any provisions, factual findings, determinations or conclusions of law included therein or in the administrative record pertinent thereto. Please contact the undersigned if you have further questions regarding this letter or Respondents' actions as outlined above. Thank you.

ames E. Baine

AUSTIN BAKIL DALLAS HOUSTON LONDON

## BAKER & BOTTS

LLP

THE WARRED 1299 PENNSYLVANIA AVENUE, N.W. WASHINGTON, D.C. 20004-2400

TELEPHONE: (202) 639-7700 FACSIMILE: (202) 639-7890

P.02

STEVEN L. LEIFER (202) 639.7723

NEW YORK

E-MAIL ADDRESS:

October 7, 1999

## VIA TELECOPY

Ms. Carol Bowden (8-ENF-T) Technical Enforcement Program Office of Enforcement, Compliance and Environmental Justice U.S. Environmental Protection Agency, Region VIII 999 18th Street, Suite 500 Denver, CO 80202-2466

Re:

SDWA Emergency Order, Docket No. SDWA-8-99-68

Dear Ms. Bowden:

This letter constitutes Pioneer Natural Resources USA, Inc.'s ("Pioneer's") initial response to EPA's September 30, 1999 Emergency Administrative Order issued to Pioneer and several other companies pursuant to Section 1431 of the Safe Drinking Water Act. The Order relates to ground water in the area of the East Poplar Oil Field on the Fort Peck Indian Reservation, Roosevelt County, Montana. The Order was received by Pioneer on October 5, 1999.

As we discussed by telephone earlier today, Pioneer is willing to participate in immediately providing to the residences identified in the Order an alternative, temporary source of water that meets EPA drinking water standards. Pioneer will work with other Respondents to implement the Order's requirement that we supply clean water to the identified homes.

Pioneer continues to evaluate the numerous other requirements contained in the Order. While this evaluation is underway, Pioneer will begin to assemble information responsive to the Order's information request and will contact your office shortly to discuss the Order's other requirements. As soon as possible after completing its evaluation and of the Order, Pioneer will supplement this response.

BAKER & BOTTS,

Ms. Carol Bowden October 7, 1999 Page 2

If you have any questions concerning this letter, please call me at the number listed above.

Sincerely,

Herry L. Leifer
Steven L. Leifer

c: Jennifer G. Fry, Esq.
Pioneer Natural Resources USA, Inc.

DC01:235625.1

Jennifer G. Fry Senior Attorney



#### **LEGAL DEPARTMENT**

(972) 969-3648 • (9725) 969-3577 fax

October 7, 1999

# VIA FACSIMILE AND REGULAR MAIL

James E. Baine, Esq.
Law Department
Murphy Exploration & Production Company
P O Box 7000
El Dorado, Arkansas 71730-7000

Phone: 870-864-6485 Fax: 870-864-6489

Received
Office of Enforcement

OCT 12 1999

RE: EPA Emergency Administrative Order Docket No. SDWA-8-99-68

Compliance & Env. Justice

Dear Mr. Baine:

Pursuant to our conversation of this morning regarding the above referenced matter Pioneer Natural Resources USA, Inc. ("Pioneer") is interested in cooperating with Murphy Exploration and Production Company ("Murphy") and other recipients of the Emergency Administrative Order, Docket No. SDWA-8-99-68 ("Order") to arrange for temporary drinking and cooking water to be provided to the affected residents as quickly as possible. I understand that Murphy is willing to take the lead in contacting the appropriate vendor to ensure delivery of the water.

Pioneer certainly is willing to contribute to alternative water supply costs however Pioneer appears to have a relatively minor presence in the East Poplar Oil Field area given that:

- Since 1970, Pioneer has injected only three percent (3%) to five percent (5%) of all saltwater in the area defined by the USGS; and
- Pioneer has only two (2) of approximately one hundred (100) wells in the area defined by the USGS.

James E. Baine, Esq. October 7, 1999 Page 2

Although Pioneer's involvement with the area of contamination appears to be in the two percent (2%) to five percent (5%) range, Pioneer is willing to contribute ten percent (10%) to temporary alternative water supply costs in order to facilitate immediate compliance with Section 1.A of the Order. The parties can engage in good faith negotiations at a later point to adjust relative contributions upward or downward as further information becomes available. Pioneer reserves all rights to seek a different allocation in any subsequent judicial proceeding.

Please send all invoices to the undersigned for payment. Should you have any questions please do not hesitate to contact me. Thank you.

Sincerely,

Jennifer G. Fry Senior Attorney

Pioneer Natural Resources USA, Inc.

cc: Carol Bowden
John W. Ross
Carolyn Otsby
Robert Sterup
Gerald B. Murphy
Patrick H. Pitet

Steven L. Leifer



REGION 8
999 18<sup>TH</sup> STREET - SUITE 500
DENVER, CO 80202-2466

OCT 7 1999

Ref: 8ENF-T

Danny Kohl 5097 Road 251 Poplar, Montana 59255

Dear Mr. Kohl:

RE: U.S. Environmental Protection Agency Emergency
Administrative Order under the Safe Drinking Water Act

I am writing this letter to you to inform you about a recent action that the United States Environmental Protection Agency, Region VIII (EPA) has taken regarding your drinking water. On September 30, 1999, EPA issued an emergency order to several oil producing companies that are either doing business or have done business in your geographic vicinity. The emergency order was issued under the authority of the federal Safe Drinking Water

Over the past many years oil production has occurred from the East Poplar Oil Field in your area. Recently, the ground water in your area has been studied and has been found to be potentially harmful to drink. The EPA has determined that sufficient evidence exists to link the oil production activities over the years with the poor ground water quality in your area. Although more study is needed to better define the extent and nature of the problem, the ground water in your area may be contaminated with products or by-products of oil production.

The order requires all of the oil companies named in the order, at their expense, to immediately provide an alternative supply of drinking water to your residence. The water supplied must meet all federal drinking water standards and the volume of water to be supplied must be at least one gallon of water per person in your residence, per day.

This letter is meant to inform you about this requirement, so that you can welcome any water provided by the companies named in the order. Although I cannot say on exactly what date alternate water may actually arrive at your residence, I expect very swift action on the part of the oil companies named.

If you have any further questions, please do not hesitate to contact me at (303) 312-6211. I am the lead environmental scientist overseeing this EPA order.

Sincerely yours,

Nathan M. Wiser

Environmental Scientist



REGION 8
999 18<sup>TH</sup> STREET - SUITE 500
DENVER, CO 80202-2466

OCT 7 1999

Ref: 8ENF-T

Birdell Lien 4849 Road 2050 Poplar, Montana 59255

Dear Birdell Lien:

RE: U.S. Environmental Protection Agency Emergency
Administrative Order under the Safe Drinking Water Act

I am writing this letter to you to inform you about a recent action that the United States Environmental Protection Agency, Region VIII (EPA) has taken regarding your drinking water. On September 30, 1999, EPA issued an emergency order to several oil producing companies that are either doing business or have done business in your geographic vicinity. The emergency order was issued under the authority of the federal Safe Drinking Water Act.

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The order requires all of the oil companies named in the order, at their expense, to immediately provide an alternative supply of drinking water to your residence. The water supplied must meet all federal drinking water standards and the volume of water to be supplied must be at least one gallon of water per person in your residence, per day.

This letter is meant to inform you about this requirement, so that you can welcome any water provided by the companies named in the order. Although I cannot say on exactly what date alternate water may actually arrive at your residence, I expect very swift action on the part of the oil companies named.

If you have any further questions, please do not hesitate to contact me at (303) 312-6211. I am the lead environmental scientist overseeing this EPA order.

Sincerely yours,

Nathan M. Wiser

Environmental Scientist

Jashon M. Wisa



REGION 8
999 18<sup>TH</sup> STREET - SUITE 500
DENVER, CO 80202-2466

OCT . 7 1999

Ref: 8ENF-T

Bill Zimmerman 5448 Road 251 Poplar, Montana 59255

Dear Mr. Zimmerman:

RE: U.S. Environmental Protection Agency Emergency
Administrative Order under the Safe Drinking Water Act

I am writing this letter to you to inform you about a recent action that the United States Environmental Protection Agency, Region VIII (EPA) has taken regarding your drinking water. On September 30, 1999, EPA issued an emergency order to several oil producing companies that are either doing business or have done business in your geographic vicinity. The emergency order was issued under the authority of the federal Safe Drinking Water Act.

Over the past many years oil production has occurred from the East Poplar Oil Field in your area. Recently, the ground water in your area has been studied and has been found to be potentially harmful to drink. The EPA has determined that sufficient evidence exists to link the oil production activities over the years with the poor ground water quality in your area. Although more study is needed to better define the extent and nature of the problem, the ground water in your area may be contaminated with products or by-products of oil production.

The order requires all of the oil companies named in the order, at their expense, to immediately provide an alternative supply of drinking water to your residence. The water supplied must meet all federal drinking water standards and the volume of water to be supplied must be at least one gallon of water per person in your residence, per day.

This letter is meant to inform you about this requirement, so that you can welcome any water provided by the companies named in the order. Although I cannot say on exactly what date alternate water may actually arrive at your residence, I expect very swift action on the part of the oil companies named.

If you have any further questions, please do not hesitate to contact me at (303) 312-6211. I am the lead environmental scientist overseeing this EPA order.

Sincerely yours,

Nat/han M. Wiser

Environmental Scientist

Andho. M. Wim



REGION 8 999 18<sup>TH</sup> STREET - SUITE 500 DENVER, CO 80202-2466

OCT ~7 1999

Ref: 8ENF-T

Joe Abbott 5540 Road 75 Poplar, Montana 59255

Dear Mr. Abbott:

RE: U.S. Environmental Protection Agency Emergency
Administrative Order under the Safe Drinking Water Act

I am writing this letter to you to inform you about a recent action that the United States Environmental Protection Agency, Region VIII (EPA) has taken regarding your drinking water. On September 30, 1999, EPA issued an emergency order to several oil producing companies that are either doing business or have done business in your geographic vicinity. The emergency order was issued under the authority of the federal Safe Drinking Water Act.

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If you have any further questions, please do not hesitate to contact me at (303) 312-6211. I am the lead environmental scientist overseeing this EPA order.

Sincerely yours,

Nathan M. Wiser

Environmental Scientist

Matha M. Wien



REGION 8
999 18<sup>TH</sup> STREET - SUITE 500
DENVER, CO 80202-2466

OCT -7 1999

Ref: 8ENF-T

Audrey Kirn 5584 Road 75 Poplar, Montana 59255

Dear Ms. Kirn:

RE: U.S. Environmental Protection Agency Emergency
Administrative Order under the Safe Drinking Water Act

I am writing this letter to you to inform you about a recent action that the United States Environmental Protection Agency, Region VIII (EPA) has taken regarding your drinking water. On September 30, 1999, EPA issued an emergency order to several oil producing companies that are either doing business or have done business in your geographic vicinity. The emergency order was issued under the authority of the federal Safe Drinking Water Act.

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Sincerely yours,

Nathan M. Wiser

Environmental Scientist



REGION 8 999 18<sup>TH</sup> STREET - SUITE 500 DENVER, CO 80202-2466

OCT -7 1999

Ref: 8ENF-T

Michael Kirn 5632 Road 75 Poplar, Montana 59255

Dear Mr. Kirn:

RE: U.S. Environmental Protection Agency Emergency
Administrative Order under the Safe Drinking Water Act

I am writing this letter to you to inform you about a recent action that the United States Environmental Protection Agency, Region VIII (EPA) has taken regarding your drinking water. On September 30, 1999, EPA issued an emergency order to several oil producing companies that are either doing business or have done business in your geographic vicinity. The emergency order was issued under the authority of the federal Safe Drinking Water Act.

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Sincerely yours,

region in the

Nathan M. Wiser

Environmental Scientist

Matha. M. Wil



REGION 8
999 18<sup>TH</sup> STREET - SUITE 500
DENVER, CO 80202-2466

OCT \*7 1999

Ref: 8ENF-T

Rachel Gray Hawk 5647 Road 75 Poplar, Montana 59255

Dear Rachel Gray Hawk:

RE: U.S. Environmental Protection Agency Emergency
Administrative Order under the Safe Drinking Water Act

I am writing this letter to you to inform you about a recent action that the United States Environmental Protection Agency, Region VIII (EPA) has taken regarding your drinking water. On September 30, 1999, EPA issued an emergency order to several oil producing companies that are either doing business or have done business in your geographic vicinity. The emergency order was issued under the authority of the federal Safe Drinking Water Act.

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Sincerely yours,

/ Joshe M. Wir

Nathan M. Wiser

Environmental Scientist



REGION 8 999 18<sup>TH</sup> STREET - SUITE 500 DENVER, CO 80202-2466

OCT 7 1999

Ref: 8ENF-T

Tim and Donna Trottier 5713 Road 75 Poplar, Montana 59255

Dear Tim and Donna Trottier:

RE: U.S. Environmental Protection Agency Emergency
Administrative Order under the Safe Drinking Water Act

I am writing this letter to you to inform you about a recent action that the United States Environmental Protection Agency, Region VIII (EPA) has taken regarding your drinking water. On September 30, 1999, EPA issued an emergency order to several oil producing companies that are either doing business or have done business in your geographic vicinity. The emergency order was issued under the authority of the federal Safe Drinking Water Act.

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Sincerely yours,

Nathan M. Wiser

Environmental Scientist



REGION 8
999 18<sup>TH</sup> STREET - SUITE 500
DENVER, CO 80202-2466

OCT 7 1999

Ref: 8ENF-T

William Lockman 5715 Road 75 Poplar, Montana 59255

Dear Mr. Lockman:

RE: U.S. Environmental Protection Agency Emergency
Administrative Order under the Safe Drinking Water Act

I am writing this letter to you to inform you about a recent action that the United States Environmental Protection Agency, Region VIII (EPA) has taken regarding your drinking water. On September 30, 1999, EPA issued an emergency order to several oil producing companies that are either doing business or have done business in your geographic vicinity. The emergency order was issued under the authority of the federal Safe Drinking Water Act.

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Sincerely yours,

Nathan M. Wiser

Machan M. Wir

Environmental Scientist



REGION 8 999 18<sup>TH</sup> STREET - SUITE 500 DENVER, CO 80202-2466

OCT 7 1999

Ref: 8ENF-T

Charles Four Bears 5678 Road 75 Poplar, Montana 59255

Dear Charles Four Bears:

RE: U.S. Environmental Protection Agency Emergency
Administrative Order under the Safe Drinking Water Act

I am writing this letter to you to inform you about a recent action that the United States Environmental Protection Agency, Region VIII (EPA) has taken regarding your drinking water. On September 30, 1999, EPA issued an emergency order to several oil producing companies that are either doing business or have done business in your geographic vicinity. The emergency order was issued under the authority of the federal Safe Drinking Water Act.

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If you have any further questions, please do not hesitate to contact me at (303) 312-6211. I am the lead environmental scientist overseeing this EPA order.

Sincerely yours,

Nathan M. Wiser

Environmental Scientist

Jather M. Wir



REGION 8 999 18<sup>TH</sup> STREET - SUITE 500 DENVER, CO 80202-2466

OCT 7 1999

Ref: 8ENF-T

Rene and Josi Martell 5666 Road 75 Poplar, Montana 59255

Dear Rene and Josi Martell:

RE: U.S. Environmental Protection Agency Emergency
Administrative Order under the Safe Drinking Water Act

I am writing this letter to you to inform you about a recent action that the United States Environmental Protection Agency, Region VIII (EPA) has taken regarding your drinking water. On September 30, 1999, EPA issued an emergency order to several oil producing companies that are either doing business or have done business in your geographic vicinity. The emergency order was issued under the authority of the federal Safe Drinking Water Act.

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Sincerely yours,

Nathan M. Wiser

Environmental Scientist

/ Jacka M. Wir



REGION 8 - 999 18<sup>TH</sup> STREET - SUITE 500 DENVER, CO 80202-2466

OCT 7 1999

Ref: 8ENF-T

George and Helen Ricker, Sr. 5712 Road 75 Poplar, Montana 59255

Dear George and Helen Ricker, Sr:

RE: U.S. Environmental Protection Agency Emergency
Administrative Order under the Safe Drinking Water Act

I am writing this letter to you to inform you about a recent action that the United States Environmental Protection Agency, Region VIII (EPA) has taken regarding your drinking water. On September 30, 1999, EPA issued an emergency order to several oil producing companies that are either doing business or have done business in your geographic vicinity. The emergency order was issued under the authority of the federal Safe Drinking Water Act.

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Sincerely yours,

Nathan M. Wiser

Environmental Scientist



REGION 8
999 18<sup>TH</sup> STREET - SUITE 500
DENVER, CO 80202-2466

OCT 7 1999

Ref: 8ENF-T

Ross and Laura Bleazard 5866 Road 150 Poplar, Montana 59255

Dear Ross and Laura Bleazard:

RE: U.S. Environmental Protection Agency Emergency
Administrative Order under the Safe Drinking Water Act

I am writing this letter to you to inform you about a recent action that the United States Environmental Protection Agency, Region VIII (EPA) has taken regarding your drinking water. On September 30, 1999, EPA issued an emergency order to several oil producing companies that are either doing business or have done business in your geographic vicinity. The emergency order was issued under the authority of the federal Safe Drinking Water Act.

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Sincerely yours,

484 42 44 44 4

Nathan M. Wiser

Environmental Scientist



REGION 8 999 18<sup>TH</sup> STREET - SUITE 500 DENVER, CO 80202-2466

OCT 7 1999

Ref: 8ENF-T

Warren and Donna Whitmer 58702 Road 75 Poplar, Montana 59255

Dear Warren and Donna Whitmer:

RE: U.S. Environmental Protection Agency Emergency
Administrative Order under the Safe Drinking Water Act

I am writing this letter to you to inform you about a recent action that the United States Environmental Protection Agency, Region VIII (EPA) has taken regarding your drinking water. On September 30, 1999, EPA issued an emergency order to several oil producing companies that are either doing business or have done business in your geographic vicinity. The emergency order was issued under the authority of the federal Safe Drinking Water Act.

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Sincerely yours,

Nathan M. Wiser

Environmental Scientist

other. M. Wi



REGION 8
999 18<sup>TH</sup> STREET - SUITE 500
DENVER, CO 80202-2466

OCT 7 1999

Ref: 8ENF-T

Mavis Loegering 5910 Road 150 Poplar, Montana 59255

Dear Mavis Loegering:

RE: U.S. Environmental Protection Agency Emergency
Administrative Order under the Safe Drinking Water Act

I am writing this letter to you to inform you about a recent action that the United States Environmental Protection Agency, Region VIII (EPA) has taken regarding your drinking water. On September 30, 1999, EPA issued an emergency order to several oil producing companies that are either doing business or have done business in your geographic vicinity. The emergency order was issued under the authority of the federal Safe Drinking Water

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If you would like to read more about this matter, please feel free to visit or contact the Assiniboine and Sioux Tribal Office located in Poplar, Montana. A copy of EPA's emergency order is available there for your review. You may call Deb Madison in the

Tribal Office at (406) 768-5155, extension 399, in order to set up a time to visit the Tribal Office.

If you have any further questions, please do not hesitate to contact me at (303) 312-6211. I am the lead environmental scientist overseeing this EPA order.

Sincerely yours,

Nathan M. Wiser

Environmental Scientist



REGION 8 999 18<sup>TH</sup> STREET - SUITE 500 DENVER, CO 80202-2466

OCT 7 1999

Ref: 8ENF-T

Jesse Kirn, Sr. 6037 Road 150 Poplar, Montana 59255

Dear Jesse Kirn, Sr:

RE: U.S. Environmental Protection Agency Emergency
Administrative Order under the Safe Drinking Water Act

I am writing this letter to you to inform you about a recent action that the United States Environmental Protection Agency, Region VIII (EPA) has taken regarding your drinking water. On September 30, 1999, EPA issued an emergency order to several oil producing companies that are either doing business or have done business in your geographic vicinity. The emergency order was issued under the authority of the federal Safe Drinking Water Act.

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Sincerely yours,

Nathan M. Wiser

Environmental Scientist



REGION 8
999 18<sup>TH</sup> STREET - SUITE 500
DENVER, CO 80202-2466

OCT 7 1999

Ref: 8ENF-T

Denise Grandchamp 5947 Road 75 Poplar, Montana 59255

Dear Denise Grandchamp:

RE: U.S. Environmental Protection Agency Emergency
Administrative Order under the Safe Drinking Water Act

I am writing this letter to you to inform you about a recent action that the United States Environmental Protection Agency, Region VIII (EPA) has taken regarding your drinking water. On September 30, 1999, EPA issued an emergency order to several oil producing companies that are either doing business or have done business in your geographic vicinity. The emergency order was issued under the authority of the federal Safe Drinking Water

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Sincerely yours,

Nathan M. Wiser

Jotha M. Wiz

Environmental Scientist



REGION 8 999 18<sup>TH</sup> STREET - SUITE 500 DENVER, CO 80202-2466

OCT 7 1999

Ref: 8ENF-T

Trivian Grainger 5957 Road 75 Poplar, Montana 59255

Dear Trivian Grainger:

RE: U.S. Environmental Protection Agency Emergency
Administrative Order under the Safe Drinking Water Act

I am writing this letter to you to inform you about a recent action that the United States Environmental Protection Agency, Region VIII (EPA) has taken regarding your drinking water. On September 30, 1999, EPA issued an emergency order to several oil producing companies that are either doing business or have done business in your geographic vicinity. The emergency order was issued under the authority of the federal Safe Drinking Water Act.

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Sincerely yours,

John M. Wir

S ( 1 4 Au -

Nathan M. Wiser

Environmental Scientist



REGION 8 999 18<sup>TH</sup> STREET - SUITE 500 DENVER, CO 80202-2466

October 15, 1999

Ref: 8ENF-T

James Baine, General Attorney Murphy Exploration and Production Company 200 Peach Street El Dorado, Arkansas 71730

RE: Approval of October 14, 1999, Water Supply Plan Pursuant to Emergency Administrative Order Docket #SDWA-8-99-68

Dear Mr. Baine:

On October 14, 1999, I received by facsimile a five-paragraph plan to provide an alternate source of drinking water to 18 residences named in the above-referenced Emergency Administrative Order (EAO). The plan you submitted is in response to Section 1(A) of the Emergency Order at page 11 of the EAO. I have read and concur with the five-paragraph plan.

If you should have any comments or additional questions, please feel free to contact me at (303) 312-6211, or by email at wiser.nathan@epa.gov.

Sincerely yours,

Nathan M. Wiser

Technical Enforcement Program

cc: Steve Leifer, Baker & Botts, L.L.P.
 Jennifer Fry, Pioneer Natural Resources Company
 David M. Cleary, W.R. Grace and Company
 Robert Sterup, Dorsey and Whitney, L.L.P.
 John Fognani, El Paso Energy Corporation
 Candance Walker, Marathon Oil Company
 Patrick Pitet, Marathon Oil Company
 Jim Eppers, 8ENF-L
 Connally Mears, 8ENF-T

#### Water Delivery Plan

- 1. Murphy will contract with a local water delivery service ("Company") to deliver the water to the residents as part of the local delivery of water to residents in the Poplar, Montana area.
- If it is possible for the Company, Murphy will request that Company deliver to each residence prior to 6:00 p.m. on Friday sufficient water to last until the next scheduled delivery to the residence, assuming 8 people per residence unless verification is obtained as to a different number of residents. The Company will work with the office of Deb Madison, Environmental Program Manager, Assiniboine and Sioux Tribes, Poplar, Montana, to determine the correct number of residents per residency. We understand that the Tribe's preliminary number of the total residents to be 54.
- 3. The Company will attempt to determine any special needs for those covered by the EAO.. If their is a special need, then the Company will attempt to reasonably accommodate that circumstance
- 4. During part of the winter this Plan may need to be modified due to the weather and the inability to leave deliveries on the front porch when no one is home. Deliveries may need to be made to Wally's Store for pick up by residents who do not have a person at their residence when the delivery truck comes to such residence.
- 5. The water will be provided in the standard containers used by the Company with one dispenser being provided per residence. The residents will return the containers after they are empty for reuse and will return the dispensers and all containers to the Company after the temporary water requirement has terminated.



200 PEACH STREET (71730) P.O. BOX 7000 EL DORADO, ARKANSAS 71731-7000

LAW DEPARTMENT

October 8, 1999

TELEPHONE: (870) 884-5 485

FAX: (870) 884-8489

Faxed and Mailed
James Eppers, Esquire
USEPA
999 18th Street, Suite 500
Denver, Co. 80202-2466

Re: Information

Dear Mr. Eppers:

Thank you for calling to advise that you have reserved a conference room at EPA's offices in Denver for October 21, 1999, commencing at 9:00 a.m. for representatives of Murphy to review all information which the EPA has concerning Murphy as it relates to the EAO served on the Company this week. I sincerely appreciate your willingness to assist the Company in providing such information.

I believe you did offer to have copied and mailed to me the testing results for work performed by EPA as to the area covered by the EAO. Obviously, it would be very helpful if the testing results contain specific information that ties the test results to the location of the each well tested. If possible, we would like to receive copies of such information prior to visiting Denver. Please advise as to the approximate cost so I can forward you a cashier's check, if such is required prior to commencing the copying.

For the day we are in Denver we request a meeting with the appropriate EPA representatives to discuss the circumstances and database underlying the Order and to clarify certain ambiguities inherent in the provisions of the Order.

I look forward to meeting with you. With best regards, I remain,

James E. Baine

Yours indiv.

**Jennifer G. Fry** Senior Attorney



#### **LEGAL DEPARTMENT**

(972) 969-3648 • (972) 969-3577 fax

CITY AD BEATE

Received
Office of Enforcement

OCT 18 1999

Compliance & Env. Justice

# VIA FACSIMILE AND REGULAR MAIL

James E. Baine, Esq. Law Department Murphy Exploration & Production Company P O Box 7000 El Dorado, Arkansas 71730-7000

Phone: 870-864-6485 Fax: 870-864-6489

RE: EPA Emergency Administrative Order

Docket No. SDWA-8-99-68

Dear Mr. Baine:

By letter dated October 7, 1999, and during our conversation of October 7, 1999, I advised that Pioneer Natural Resources USA, Inc. ("Pioneer") was willing to cooperate in complying with EPA Emergency Administrative Order, Docket No. SDWA-8-99-68 ("Order") to arrange for temporary drinking and cooking water to be provided to the affected residents as quickly as possible.

I have just received your facsimile dated October 8, 1999 regarding a conference call in the above referenced matter. It is unclear when the facsimile was sent or what facsimile number the document was sent to. In order to avoid any confusion please be advised that my fax number is 972-969-3577.

In the future, please advise me, in a timely fashion, of the date and time of any conference calls or meetings regarding the Order so that Pioneer may participate in such calls or meetings. I look forward to working with you and the other recipients of the Order and should you have any questions, please do not hesitate to contact me. Thank you.

Sincerely,

Senior Attorney

Pioneer Natural Resources USA, Inc.

cc: Carol Bowden
Nathan Wiser
John W. Ross
Carolyn Otsby
Robert Sterup
Gerald B. Murphy
Patrick Pitet
Steven L. Leifer
Scott Miller
Michael G. Daniel

**JGF** 



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http://www.epa.gov/region08

Ref: 8ENF-T

CERTIFIED MAIL REQUESTED

NOV - 5 1999

AMARCO Resources Corporation S.O.S. 2920 One Main Place Dallas, TX 75250

RE: First Amended Emergency
Administrative Order under
Section 1431 of the SDWA
Docket No. SDWA-8-99-68

Dear AMARCO Resources Corporation:

Enclosed is an Emergency Administrative Order issued under Section 1431 of the Safe Drinking Water Act (SDWA), 40 U.S.C. This Order revokes and supercedes in its entirety the previously issued Order bearing the same docket number, issued on September 30, 1999. The United States Environmental Protection Agency (EPA) has taken into consideration several important issues raised during a November 1, 1999, meeting among the Respondents named in the September 30, 1999, Order and has decided to revoke and re-issue this Order. EPA believes that the most important issues brought forth during that meeting have been addressed in today's Order. Specifically, the 120-day deadline requirement to submit plans for aquifer remediation and an alternate water supply has been removed, with the expectation that there will be subsequent Orders which will address these issues when more specificity is known regarding the actual known contamination source(s) and parties responsible for the contamination.

The Order continues to be based on contamination of the ground water in and around the area of the East Poplar Oil Field within the boundary of the Fort Peck Indian Reservation in Roosevelt County, Montana. EPA has identified the presence of the contaminant benzene and a substantial increase in the total dissolved solids levels in the Quaternary Deposits. The presence of these contaminants in the Quarternary Deposits, an Underground Source of Drinking Water (USDW), may present an imminent and substantial endangerment to the health of local residents who drink and use this water. EPA has also determined that the Respondents of the Order, through the operations of the oil and gas production facilities in the East Poplar Oil Field, have caused or contributed and/or are continuing to cause and contribute to the endangerment of the USDW.

The enclosed Order sets forth the actions that you must make to, among other things, ensure that the people served by the USDW are provided with safe drinking water. The penalties for failing to comply are set forth in the Order. The Order requires that you continue to provide temporary safe drinking water to identified residences, submit well, tank, pipeline and pit information, and submit geologic and hydrologic field information. It is also anticipated that additional Orders will be issued to the parties specifically known to be responsible for the historic and/or on-going Quaternary aquifer contamination in the East Poplar Oil Field. In any such subsequent Order(s), EPA will, in a phased approach, require further study and/or plans for containment, diversion, or remediation of the Quaternary aquifer.

EPA strongly urges all Respondents to consider investigating their oil production-related appurtenances (i.e. oil well(s), injection well(s), tank(s), pipeline(s), pit(s)) as an activity to better refine the source(s) of contamination of the Quaternary aquifer. EPA believes that there may still be on-going contamination of the Quaternary aquifer. EPA will gladly assist such efforts in any way possible. Such investigation may include such activities as physical inspection, pressure testing, excavation, or ground water monitoring, depending on the appurtenance.

The issuance of this Order is consistent with EPA's goal of protecting human health and the environment, including working to ensure the provision of safe drinking water to the affected residents. With regard to this Order, please contact Nathan Wiser at (303) 312-6211 or write Mr. Wiser at the address provided above, mail code 8-ENF-T.

Sincerely,

Carrolly E. Means

Connally E. Mears, Director
Technical Enforcement Program
Office of Enforcement, Compliance
and Environmental Justice

#### Enclosure

cc: Arlyn Headdress, Chairman, Fort Peck Tribal Executive Board

Deb Madison, Assiniboine and Sioux Tribes Environmental Program Manager

Doug Endreson, Tribal Counsel, Assiniboine and Sioux Tribes George Hudak, Montana Board of Oil and Gas Conservation



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http://www.epa.gov/region08

Ref: 8ENF-T

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

NOV - 5 1999

AMARCO Resources Corporation S.O.S. 2920 One Main Place Dallas, TX 75250

RE: First Amended Emergency Administrative Order under Section 1431 of the SDWA Docket No. SDWA-8-99-68

Dear AMARCO Resources Corporation:

Enclosed is an Emergency Administrative Order issued under Section 1431 of the Safe Drinking Water Act (SDWA), 40 U.S.C. This Order revokes and supercedes in its entirety the previously issued Order bearing the same docket number, issued on September 30, 1999. The United States Environmental Protection Agency (EPA) has taken into consideration several important issues raised during a November 1, 1999, meeting among the Respondents named in the September 30, 1999, Order and has decided to revoke and re-issue this Order. EPA believes that the most important issues brought forth during that meeting have been addressed in today's Order. Specifically, the 120-day deadline requirement to submit plans for aquifer remediation and an alternate water supply has been removed, with the expectation that there will be subsequent Orders which will address these issues when more specificity is known regarding the actual known contamination source(s) and parties responsible for the contamination.

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EPA strongly urges all Respondents to consider investigating their oil production-related appurtenances (i.e. oil well(s), injection well(s), tank(s), pipeline(s), pit(s)) as an activity to better refine the source(s) of contamination of the Quaternary aquifer. EPA believes that there may still be on-going contamination of the Quaternary aquifer. EPA will gladly assist such efforts in any way possible. Such investigation may include such activities as physical inspection, pressure testing, excavation, or ground water monitoring, depending on the appurtenance.

The issuance of this Order is consistent with EPA's goal of protecting human health and the environment, including working to ensure the provision of safe drinking water to the affected residents. With regard to this Order, please contact Nathan Wiser at (303) 312-6211 or write Mr. Wiser at the address provided above, mail code 8-ENF-T.

Sincerely,

Camally E. Means

Connally E. Mears, Director Technical Enforcement Program Office of Enforcement, Compliance and Environmental Justice

#### Enclosure

cc: Arlyn Headdress, Chairman, Fort Peck Tribal Executive Board

Deb Madison, Assiniboine and Sioux Tribes Environmental Program Manager

Doug Endreson, Tribal Counsel, Assiniboine and Sioux Tribes George Hudak, Montana Board of Oil and Gas Conservation



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Ref: 8ENF-T

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Marathon Oil Company CT Corporation System 40 West Lawrence, Suite A Helena, MT 59624-1166 NOV - 5 1999

RE: First Amended Emergency Administrative Order under Section 1431 of the SDWA Docket No. SDWA-8-99-68

Dear Marathon Oil Company:

Enclosed is an Emergency Administrative Order issued under Section 1431 of the Safe Drinking Water Act (SDWA), 40 U.S.C. § 300i. This Order revokes and supercedes in its entirety the previously issued Order bearing the same docket number, issued on September 30, 1999. The United States Environmental Protection Agency (EPA) has taken into consideration several important issues raised during a November 1, 1999, meeting among the Respondents named in the September 30, 1999, Order and has decided to revoke and re-issue this Order. EPA believes that the most important issues brought forth during that meeting have been addressed in today's Order. Specifically, the 120-day deadline requirement to submit plans for aquifer remediation and an alternate water supply has been removed, with the expectation that there will be subsequent Orders which will address these issues when more specificity is known regarding the actual known contamination source(s) and parties responsible for the contamination.

The Order continues to be based on contamination of the ground water in and around the area of the East Poplar Oil Field within the boundary of the Fort Peck Indian Reservation in Roosevelt County, Montana. EPA has identified the presence of the contaminant benzene and a substantial increase in the total dissolved solids levels in the Quaternary Deposits. The presence of these contaminants in the Quarternary Deposits, an Underground Source of Drinking Water (USDW), may present an imminent and substantial endangerment to the health of local residents who drink and use this water. EPA has also determined that the Respondents of the Order, through the operations of the oil and gas production facilities in the East Poplar Oil Field, have caused or contributed and/or are continuing to cause and contribute to the endangerment of the USDW.

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EPA strongly urges all Respondents to consider investigating their oil production-related appurtenances (i.e. oil well(s), injection well(s), tank(s), pipeline(s), pit(s)) as an activity to better refine the source(s) of contamination of the Quaternary aquifer. EPA believes that there may still be on-going contamination of the Quaternary aquifer. EPA will gladly assist such efforts in any way possible. Such investigation may include such activities as physical inspection; pressure testing, excavation, or ground water monitoring, depending on the appurtenance.

The issuance of this Order is consistent with EPA's goal of protecting human health and the environment, including working to ensure the provision of safe drinking water to the affected residents. With regard to this Order, please contact Nathan Wiser at (303) 312-6211 or write Mr. Wiser at the address provided above, mail code 8-ENF-T.

Sincerely,

Carrelly E. Means

Connally É. Mears, Director Technical Enforcement Program Office of Enforcement, Compliance and Environmental Justice

#### Enclosure

cc: Arlyn Headdress, Chairman, Fort Peck Tribal Executive Board

Deb Madison, Assiniboine and Sioux Tribes Environmental Program Manager

Doug Endreson, Tribal Counsel, Assiniboine and Sioux Tribes George Hudak, Montana Board of Oil and Gas Conservation



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Ref: 8ENF-T

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

NOV - 5 1999

W.R. Grace and Company - Conn. Prentice Hall Corporation System, Inc. P.O. Box 1691 Helena, MT 59624-1691

> RE: First Amended Emergency Administrative Order under Section 1431 of the SDWA Docket No. SDWA-8-99-68

Dear W.R. Grace and Company - Conn.:

Enclosed is an Emergency Administrative Order issued under Section 1431 of the Safe Drinking Water Act (SDWA), 40 U.S.C. This Order revokes and supercedes in its entirety the previously issued Order bearing the same docket number, issued on September 30, 1999. The United States Environmental Protection Agency (EPA) has taken into consideration several important issues raised during a November 1, 1999, meeting among the Respondents named in the September 30, 1999, Order and has decided to revoke and re-issue this Order. EPA believes that the most important issues brought forth during that meeting have been addressed in today's Order. Specifically, the 120-day deadline requirement to submit plans for aquifer remediation and an alternate water supply has been removed, with the expectation that there will be subsequent Orders which will address these issues when more specificity is known regarding the actual known contamination source(s) and parties responsible for the contamination.

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Sincerely,

Consily E. Mens

Connally É. Mears, Director
Technical Enforcement Program
Office of Enforcement, Compliance
and Environmental Justice

#### Enclosure

cc: Arlyn Headdress, Chairman, Fort Peck Tribal Executive
Board

Deb Madison, Assiniboine and Sioux Tribes Environmental Program Manager

Doug Endreson, Tribal Counsel, Assiniboine and Sioux Tribes George Hudak, Montana Board of Oil and Gas Conservation



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NOV - 5 1999

Pioneer Natural Resources USA, Inc. CT Corporation System 40 West Lawrence, Suite A Helena, MT 59624-1166

RE: First Amended Emergency.
Administrative Order under
Section 1431 of the SDWA
Docket No. SDWA-8-99-68

Dear Pioneer Natural Resources USA, Inc.:

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Sincerely,

Consily E. was

Connally E. Mears, Director Technical Enforcement Program Office of Enforcement, Compliance and Environmental Justice

#### Enclosure

cc: Arlyn Headdress, Chairman, Fort Peck Tribal Executive Board

Deb Madison, Assiniboine and Sioux Tribes Environmental Program Manager

Doug Endreson, Tribal Counsel, Assiniboine and Sioux Tribes George Hudak, Montana Board of Oil and Gas Conservation



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Ref: 8ENF-T

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

NOV - 5 1999

Murphy Exploration and Production Company CT Corporation System 40 West Lawrence, Suite A P.O. Box 1166 Helena, MT 59624-1166

> RE: First Amended Emergency Administrative Order under Section 1431 of the SDWA Docket No. SDWA-8-99-68

Dear Murphy Exploration and Production Company:

Enclosed is an Emergency Administrative Order issued under Section 1431 of the Safe Drinking Water Act (SDWA), 40 U.S.C. § 300i. This Order revokes and supercedes in its entirety the previously issued Order bearing the same docket number, issued on September 30, 1999. The United States Environmental Protection Agency (EPA) has taken into consideration several important issues raised during a November 1, 1999, meeting among the Respondents named in the September 30, 1999, Order and has decided to revoke and re-issue this Order. EPA believes that the most important issues brought forth during that meeting have been addressed in today's Order. Specifically, the 120-day deadline requirement to submit plans for aquifer remediation and an alternate water supply has been removed, with the expectation that there will be subsequent Orders which will address these issues when more specificity is known regarding the actual known contamination source(s) and parties responsible for the contamination.

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Sincerely,

Courtly E. Meson

Connally E. Mears, Director
Technical Enforcement Program
Office of Enforcement, Compliance
and Environmental Justice

#### Enclosure

cc: Arlyn Headdress, Chairman, Fort Peck Tribal Executive Board

Deb Madison, Assiniboine and Sioux Tribes Environmental Program Manager

Doug Endreson, Tribal Counsel, Assiniboine and Sioux Tribes George Hudak, Montana Board of Oil and Gas Conservation HOUSTON
AUSTIN
DALLAS
NEW YORK
MOSCOW
LONDON
BAKU

STEVEN L. LEIFER (202) 839-7723

#### BAKER & BOTTS

L.L.P.
THE WARNER
1299 PENNSYLVANIA AVENUE, N.W.
WASHINGTON, D.C. 20004-2400

TELEPHONE: (202) 639-7700 FACSIMILE: (202) 639-7890

E-MAIL ADDRESS:

#### **VIA FACSIMILE**

November 11, 1999

Mr. Nathan Wiser (8-ENF-T)
Technical Enforcement Program
Office of Enforcement, Compliance, and Environmental Justice
U.S. Environmental Protection Agency
999 18th Street, Suite 500
Denver, CO 80202-2466

Re: Testing of Residential Drinking Water, Fort Peck Indian Reserve

Dear Mr. Wiser:

As we discussed at the November 1 meeting in Denver, Pioneer and other recipients of the Safe Drinking Water Act Emergency Order are interested in working with EPA to better understand environmental conditions at the East Poplar Oil Field. Pioneer will be gathering and submitting to EPA information concerning its former production and injection wells, and will also focus on determining whether these wells could be impacting the Quaternary aquifer.

As part of this process, Pioneer would like to participate in EPA's implementation of the November 1, 1999 Sampling and Analysis Plan For Port Peck Indian Reservation by observing sampling events and obtaining split samples. I believe you already are in the process of arranging for similar participation by Murphy Oil. Of course, we would be happy to make the results of our analysis of the splits available to the Agency, and would be interested in obtaining copies of any results obtained by EPA or its agents.

We will contact you shortly to work out the details of our participation in the residential drinking water sampling program. If you have any questions in the interim, please contact me at the number listed above.

Sincerely,

Steven I Leifer

DC01\*240417.1

1-12-00 + 0.001111 +

# Massey Semenoff Stern & Schwarz, P.C.

ATTORNEYS AT LAW

THE EQUITABLE BUILDING
730 SEVENTEENTH STREET, SUITE 330
DENVER, COLORADO | 80202

PHONE (303) 893-1815
PACSIMILE (303) 893-1829
www.mssdenverlawi.com

DEAN R. MACEY, Enq.
DIRECT DIAL: (303) 893-1819
E-MAIL: dmassy@madchyollaw.com

November 12, 1999

Mr. James Eppers, Esq.
Mr. Nathan Wiser
U.S. Environmental Protection Agency 999 18th Street, Suite 500
Denver, Colorado 80202-2466

Re: EAO -- Docket No. SDWA-8-99-68

Gentlemen:

In the course of recent meetings with my dient Murphy Exploration & Production Company ("Murphy") regarding the above-referenced matter, you provided us with a copy of an approved Sampling and Analysis Plan ("SAP") for the Fort Peck Indian Reservation. You also indicated that sampling of domestic and other wells in accordance with that plan would be underway almost immediately.

In the subsequent discussions, EPA offered to provide the information and data collected in the course of sampling to recipients of the EAO, including my client, Murphy. I am writing this letter to confirm our expectations in that regard and to request that you forward any additional information or data obtained in the course of sampling to me at the earliest possible date.

Please do not hesitate to contact me if you have any questions concerning this request. Thank you for your cooperation.

Very truly yours,

MASSEY SEMENOFF STERN & SCHWARZ, P.C.

Dear R Massey

ATTORNEYS FOR MURPHY EXPLORATION & PRODUCTION COMPANY

DRM:lkc

cc: James Baine



131 SOUTH ROBERTSON STREET (70112) P.O. BOX 61780 NEW ORLEANS, LA 70161-1780 (504) 561-2811 FAX (504) 561-2837

December 23, 1999

Mr. Nathan Wiser US EPA 999 18th Street, Suite 500 Denver, CO 80202

Re: Northeast Montana Water Conditioning

Dear Mr. Wiser;

Enclosed please find a copy of the Invoice from Nemont for the month of December, 1999. If there are any questions please call me at (504)561-2594.

Yours truly,

Sidney W. Campbell
Operations Manager

cc: James Baine, Murphy
Mike Webster, Crowley et al
Wilbur-Dover, Pioneer
J. David Tucker, Grace
Candace Walker, Marathon
John Fognani, El Paso Energy



131 SOUTH ROBERTSON STREET (70112) P.O. BOX 61780 NEW ORLEANS. LA 70161-1780 (504) 561-2811 FAX (504) 561-2837

January 13, 2000

Mr. Nathan Wiser US EPA 999 18th Street, Suite 500 Denver, CO 80202

Re: Northeast Montana Water Conditioning

Dear Mr. Wiser;

Enclosed please find a copy of the Invoice from Nemont for the month of December, 1999. If there are any questions please call me at (504)561-2594.

Yours truly,

Sidney W. Campbell Operations Manager

cc: James Baine, Murphy
Mike Webster, Crowley et al
Wilbur Dover, Pioneer
J. David Tucker, Grace
Candace Walker, Marathon
John Fognani, El Paso Energy

Received Office of Enforcement

JAN 20 2000

# FORT PECK TRIBES

Assiniboine & Sioux

Nathan Wiser, 8ENF-T US EPA Region 8 999 18th Street, Suite 500 Denver, CO 80202-2466

February 15, 2000

Dear Nathan;

Enclosed is a copy of a letter I received in my office today, 2/15/00. I called Rene Martell on the contents and told him I felt it should forwarded to your office. He concurred and also said that he had sent a similar letter to you or EPA as well. Please review for your records. If you have any additional questions or comments, please contact me at your convenience.

Sincerely.

Deb Madison

**OEP** 

Fort Peck Tribes

enc. 1

Received
Office of Enforcement

FEB 23 2000

Compliance & Env. Justice



(406) 768-5155

Deb Madison EPA, Fort Peck Tribes Box 1027 Poplar, MT 59255

Re: Contamination in the East Poplar Unit

Dear Deb:

I want to give you some information about further contamination in the East Poplar Unit that I recently heard. For the past two weeks, Murphy Oil has had a workover rig at the Murphy #55 site which is about a mile east of the Mesa Well. This is a flowing well that has not been pulled since 1955.

Apparently, sink holes appeared on the well pad and when Murphy investigated they found that the casing had two holes in it and it was figured that the leaks had been there for quite awhile. I have been told that because the water is extremely hot and because of the pressure, that Murphy could only patch one of the holes. The workover rig is now gone and apparently the contamination continues.

I also heard that there are large old spills on the Bird and Bear oil pads in the Palomino field. This is of special concern to me because our family leases Range Unit #67 which contains the Palomino field.

Sincerely,

Rene A. Martell

P.O. Box 44

Poplar, MT 59255

Rene Martell

Received
Office of Enforcement

FEB 23 2000

Patrick G. Pitet Region Counsel Rocky Mountain Region



1501 Stampede Avenue Cody, WY 82414-4721 Telephone 307/587-4961, Ext. 3275

Direct Dial: 307/527-3275 Fax: 307/527-3264

February 24, 2000

# Via UPS Overnight Delivery

Received Office of Enforcement

FEB 2 5 2000

Compliance & Env. Justice

U. S. Environmental Protection Agency
Attn: Mr. Nathan Wiser
Office of Enforcement, Compliance and Environmental Justice
Technical Enforcement Program (8ENF-T)
999 18th Street, Suite 500
Denver, Colorado 80202-2466

Re:

First Amended Emergency Administrative Order under Section 1431 of the

SDWA Docket No. SDWA - 8-99-68

#### Gentlemen:

This letter is in response to the First Amended Emergency Administrative Order ("Order"). Attached are the various documents, numbered 000001 through 000633, requested in Section VI (B) of the Order. Please feel free to call if you have any questions.

We are enclosing copies of documents from the well files available for the wells that are subject to the Order. We did not specify answers to the specific data requests contained in the Order. However, all of the information requested is included with this response.

From Marathon's analysis, it is evident that the claimed contamination of the drinking water aquifer in the region did not emanate from the three wells drilled and properly plugged by Marathon's predecessor-in-interest. Marathon representatives would like to meet with the EPA to discuss our conclusions and explore ways in which Marathon's participation in this matter can be concluded in a mutually beneficial manner.

We suggest a meeting the week of either March 13 or 20, but we are able to meet with EPA at another mutually agreeable time. If EPA's technical consultants would like to converse with our personnel prior to a meeting, please give us a call.

Very truly yours,

Patrick S. Peter /g

PGP:ckj Enclosures

N:\Legal\PGP\EPA Region VIII - Response to Fort Peck Data Request (2-24-00).doc

# Holme Roberts & Owen LLP

Received Office of Enforcement

MAR 3 1 2000

March 30, 2000

Compliance & Env. Justice



## VIA HAND DELIVERY

Mr. Nathan Wiser U.S. Environmental Protection Agency Office of Enforcement, Compliance and Environmental Justice Technical Enforcement Program (8ENF-T) 999 18th Street, Suite 500 Denver, CO 80202-2466

Re: Submission of Information Pursuant to First Amended Emergency Administrative Order, East Poplar Oil Field, Fort Peck Indian Reservation, Montana, Docket No. SDWA-8-99-68 (Nov. 5, 1999)

Kenneth W. Lund (303) \$66-0409 hundk@hro.com

Attorneys at Law

1700 Lincoln Street Suite 4100 Denver, Colorado

Tel (303)861-7000

Fax (303)866-0200

80203-4541

www.hro.com

Colorado Springs

Denver Salt Lake City

Boulder

London

Dear Mr. Wiser:

Please find enclosed documents from W.R. Grace & Company (Grace) responsive to the requests in Sections VI.B through VI.E of the November 5. 1999 First Amended Emergency Administrative Order for the East Poplar Oil Field on the Fort Peck Indian Reservation in Montana (Order). EPA requested information regarding wells in certain sections of Township 28N, Range 51E.

As we have discussed, Grace does not currently have any interest in any wells in the East Poplar Oil Field, having transferred all interest in the wells to Murphy Oil. Therefore, the responsive records in Grace's possession are limited. These documents are mainly related to well data, well logs, and service records for wells in Section 10. We have not included documents sent from EPA to Grace.

The information provided fully responds to the Order. Please give me a call if you have any questions.

Very truly yours,

Kenneth W. Lund

Kenneth W. Z

KWL:cg Enclosures

cc: David M. Cleary David Tucker

# CROWLEY, HAUGHEY, HANSON, TOOLE & DIETRICH P.L.L.P.

ATTORNEYS AT LAW ESTABLISHED 1895

BILLINGS
500 Transwestern Plaza II
490 North 31<sup>st</sup> Street
P.O. Box 2529
Billings, Montana 59103-2529
Tel (406) 252-3441 · Fax (406) 256-8526

.

MICHAEL E. WEBSTER
DIRECT DIAL: (406) 255-7305
E-MAIL: mikewebsier@crowleylaw.com

March 31, 2000

Mr. Nathan Wiser
U. S. Environmental Protection Agency
Office of Enforcement, Compliance & Environmental Justice
Technical Enforcement Program (8 ENF-T)
999 18<sup>th</sup> Street, Suite 500
Denver, CO 80202-2466

RE: Nov. 5, 1999 First Amended Emergency Administrative Order

Docket No. SDWA-8-99-68

In the Matter of Amarco Resources Corporation, et al.

Dear Mr. Wiser:

On Thursday, March 30, 2000, I forwarded to you by Federal Express (Tracking Number 801646873508) the responses of Murphy Exploration & Production Co. to the information requests set forth in the above-referenced Administrative Order. In order to meet the time deadline of Federal Express, I was not able to include with such response any cover letter to you regarding the materials provided. I am, by this letter, providing to you my comments regarding Murphy's responses.

First, as I indicated to you by telephone on Wednesday, March 29, Murphy has reviewed literally thousands of pages of documents in connection with completing its response to the Nov. 5, 1999 Administrative Order. Murphy has attempted to cull through approximately 50 years of records to provide the information requested. I have attempted, with the help of Murphy's personnel, to provide the information in as convenient and user-friendly form as possible. As you will see in your review, some of the documents in Murphy's files were difficult to copy in a readable form, but I requested that the copies be as legible as possible.

Given the vast quantity of documents which were reviewed, and the broad nature of the requested information, it may very well be that you will have questions in the process of your records review. If so, please feel free to call me, and I will do what I can to get your questions answered. Similarly, if, in the course of your review, you believe that certain information or documents likely in the possession of Murphy have not been included, please let me know, and I will do my best to see if those documents exist, and if so, to get them to you as quickly as possible.

I would also note, for your information, that there are certain wells set forth in Attachment 2 to the referenced Administrative Order on the "Murphy" company list for which Murphy has no information. Specifically, these wells include the TXO-1 well, the Buckles SWD #1 well, and the Buckles A-1 well. Thus, no information regarding these wells is included in the documents furnished to your office by Murphy.

HELENA: 100 NORTH PARK AVENUE, SUITE 300, P.O. BOX 797, HELENA, MONTANA 59624 PHONE (406) 449-4165 WILLISTON: 113 EAST BROADWAY, P.O. BOX 1206, WILLISTON, NORTH DAKOTA 58802-1206 PHONE (701) 572-2200 KALISPELL: 431 FIRST AVENUE WEST, P.O. BOX 759, KALISPELL, MONTANA 59903-0759 PHONE (406) 752-6644

Mr. Nathan Wiser March 31, 2000 Page 2

Murphy has undertaken extensive efforts to comply with the requests in the Nov. 5, 1999 Administrative Order, and to otherwise work with the Environmental Protection Agency in this matter. If you have any questions regarding the submitted information, please contact me so we can work together to get your questions answered.

Very truly yours,

MICHAEL E. WEBSTER

Michael E. Welst

MEW:jss

Received Office of Enforcement

APR - 4 2000



131 SOUTH ROBERTSON STREET (70112) P.O. BOX 61780 NEW ORLEANS, LA 70161-1780 (504) 561-2811 FAX (504) 561-2837

> Received Office of Enforcement MAY 1 5 2000

May 12, 2000

Compliance & Env. Justice

Mr. Nathan Wiser US EPA 999 18th Street, Suite 500 Denver, CO 80202

Re: Northeast Montana Water Conditioning

Dear Mr. Wiser;

Enclosed please find a copy of the Invoice from Nemont for the month of April, 2000. If there are any questions please call me at (504)561-2594.

Yours truly,

Lichrey W. Campbell
Sidney W. Campbell
Operations Manager

cc: James Baine, Murphy
Mike Webster, Crowley et al
Wilbur Dover, Pioneer
J. David Tucker, Grace
Candace Walker, Marathon
John Fognani, El Paso Energy



June 6, 2000

Mr. Nathan Wiser US EPA 999 18th Street, Suite 500 Denver, CO 80202

Re: Northeast Montana Water Conditioning

Dear Mr. Wiser;

Enclosed please find a copy of the Invoice from Nemont for the month of May, 2000. If there are any questions please call me at (504)561-2594.

Yours truly,

Sidney W. Campbell
Sidney W. Campbell
Operations Manage

cc: James Baine, Murphy Mike Webster, Crowley et al Wilbur Dover, Pioneer J. David Tucker, Grace Candace Walker, Marathon John Fognani, El Paso Energy

Received Office of Enforcement JUN 08 2000



Received
Office of Enforcement
JUL 3 1 2000
Gempliance & Env. Justice

July 25, 2000

Mr. Nathan Wiser US EPA 999 18th Street, Suite 500 Denver, CO 80202

Re: Northeast Montana Water Conditioning

Dear Mr. Wiser;

Enclosed please find a copy of the Invoice from Nemont for the month of June, 2000. If there are any questions please call me at (504)561-2594.

Yours truly,

Sidney W. Campbell

**Operations Manager** 

cc: James Baine, Murphy
Mike Webster, Crowley et al
Wilbur Dover, Pioneer
J. David Tucker, Grace
Candace Walker, Marathon
John Fognani, El Paso Energy



REGION 8
999 18<sup>TH</sup> STREET - SUITE 300
DENVER, CO 80202-2466
http://www.epa.gov/region08

AUG € 9 2000

Ref: 8ENF-T

James Modesto Sonosky, Chambers, Sachse & Endreson Suite 1200, 1250 Eye Street, N.W. Washington, DC 20005

Re:

Safe Drinking Water Act § 1431 Emergency

Administrative Order (EAO)
Docket Number SDWA-8-99-68

Requested Items

Dear Mr. Modesto:

Thank you for your telephone call early in the week of July 31, 2000, during which you continued to offer any assistance your law firm may provide as EPA Region VIII continues to work on the next courses of action regarding the above-captioned EAO. As you requested, I have enclosed copies of both the W.R. Grace & Co. appeal withdrawal and the index to the administrative record that W.R. Grace & Co. had requested. Please note that the correspondence and other documentation for this EAO continues to grow. While the enclosed administrative record index is complete inasmuch as it describes the basis for Region VIII's November 5, 1999, EAO, there are additional documents received that have not yet been entered into the enclosed index.

I hope that this is helpful for you. Please feel free to call me at (303) 312-6211 if you have questions.

Sincerely,

Wathan M. Wiser

**Environmental Scientist** 

**Enclosures** 

cc: J. Eppers (8ENF-L)

Printed on Recycled Paper



REGION 8
999 18<sup>TH</sup> STREET - SUITE 300
DENVER, CO 80202-2466
http://www.epa.gov/region08

AUG 9 2000

CONCURRENCE COPY

Ref: 8ENF-T

James Modesto Sonosky, Chambers, Sachse & Endreson Suite 1200, 1250 Eye Street, N.W. Washington, DC 20005

Re: Safe Drinking Water Act § 1431 Emergency

Administrative Order (EAO)
Docket Number SDWA-8-99-68

Requested Items

Dear Mr. Modesto:

Thank you for your telephone call early in the week of July 31, 2000, during which you continued to offer any assistance your law firm may provide as EPA Region VIII continues to work on the next courses of action regarding the above-captioned EAO. As you requested, I have enclosed copies of both the W.R. Grace & Co. appeal withdrawal and the index to the administrative record that W.R. Grace & Co. had requested. Please note that the correspondence and other documentation for this EAO continues to grow. While the enclosed administrative record index is complete inasmuch as it describes the basis for Region VIII's November 5, 1999, EAO, there are additional documents received that have not yet been entered into the enclosed index.

I hope that this is helpful for you. Please feel free to call me at (303) 312-6211 if you have questions.

Sincerely,

Nathan M. Wiser Environmental Scientist

Enclosures

cc: J. Eppers (8ENF-L)

8ENF T NW 8-4-2000

Printed on Recycled Paper

Received
Office of Enforcement

August 16, 2000

AUG 21 2000

Compliance & Env. Justice

Nathan M. Wiser EPA 999 18th Street Suite 500 (8ENF-T) Denver, CO 80202

Dear Mr. Wiser:

I had talked with a water systems engineer with Culligan and he sent the enclosed treatment information to the local Culligan dealer. The prices are probably dated and they do not mention how long they expect one of these machines to last.

Our Federal lawsuit is schedule to go to court in the Fall of 2002. Our attorneys are scheduling corporate depositions and the oil companies have asked about settlement but we do not know what that means yet.

Sincerely,

Rene A. Martell

P.O. Box 44

Poplar, MT 59255

Rine A. Martell

(406) 768-3006

October 23 1998

Mr. Rene Martel P.O. box 44 Poplar MT 59230

CULLIGAN OF GLASGOW QUOTATION:

APPLICATION:

9810-06-SMA

Sea water units for Northeast Montana

Project (Mr. Rene Martel Phone

1-800-677-4680)

Dear Rene,

Culligan of Glasgow is pleased to offer seawater RO system with storage and repressurization capability as outlined in the attached scope of supply.

Budgetary customer price a single system is \$27308.75 (Twenty seven thousand three hundred eight and seventy five cents). Budgetary customer price twelve (12) system is \$327,705 (Three hundred twenty seven thousand seven hundred five dollars). Price of systems include labor, hooking to inlet drain and all interconnecting piping within the Seawater R.O. system.

Estimated lead time is 14-16 weeks from date of order, based on in house workload at this time. If approval are required, the estimated lead time would be 12-14 weeks from receipt of signed and approved drawings in Northbrook.

Standard payment terms are 50% down payment with order, 40% progress payment due 30 days after shipment, and final 10% due upon start-up not to exceed 90 days form time of shipment.

If an order is placed after 90 days we reserve the right to accept it as is, or revise the price and terms for increases in equipment and labor costs.

Rene, I talked to a local plumber and with a new drain field designed for this system and plumbing to and from house and two heaters one for backup estimated cost would be\$5000.00.

I also talked to a local electrician and cost of this building to be fully wired would be\$2000.00.

I also talked to a local carpenter and cost of building structure and foundation would be \$4500.00

Total estimated cost per household would be \$38808.75 for a complete working prodject.

If I can be of further assistance, please contact me on at 1-800-845-7865, referencing the above quotation number.

Sincerely, Lewish

David Leraas

Water Treatment Consultant



# **CULLIGAN WATER GLASGOW**

Dave Leraas Water Treatment Consultant 730 3rd Ave South Glasgow, MT 59230

> Teleprione 1-800-8-5-7885 Fax (406) 228-2614

# Dear Rene.

During the operation of and reverse osmosis system, dissolved solids and particulate matter are concentrated inside the module element. If these contaminants are present in relatively low concentrations, the concentrate flow from the system flushes them to drain. In most cases, water pretreatment such as filters and depth filters will prevent the deposit of these contaminants

When these deposits occur, there will be a decrease in the product water flow and quality. When these symtoms become exessive, the modules must be cleaned so many times then become permanently damaged.

The water that will flow through all Culligan filters will become used in some very contaminated water. In return a maintence agreement has been highly recommended in this situation.

This contract includes:

Monthly filter change

Monthly maintenance check on all units

Monthly water testing

Cleaning of membranes on Sea Water R.O. when needed

Mileage and labor

Break down of maintenance agreement cost per month over a twenty year contract.

Depth filter media changed yearly 5 micron string filter monthly R.O. pump for membranes 3 year Two membranes 3 year Soda ash chemical monthly Chlorine chemical monthly Average cost of material per month

Monthly labor and trip cost

\$150.00 into 12 months \$168.00 into 12 months \$495.00 into 36 months \$13.75 per month \$550.00 into 36 months \$15.27 per month \$486.00 into 12 months \$360.00 into 12 months

\$12.50 per month \$14.00 per month \$40.50 per month \$30.00 per month

\$126.02 per month **\$**65.00 per month

Total to maintance unit per year

Total to maintance unit per twenty year contract

\$2292.24 per year

\$45844.80

Total to maintance units for twelve households per twenty year

\$550137.60

If I can be of further assistance, please contact me at 1-800-845-7865

Sincerely,

David Lerass

David Lerass

Water Treatment Consultant

# SCOPE OF SUPPLY

Culligan proposes to supply the following components and packaged process units:

# EQUIPMENT: SW-400 system with storage and repressurization

- Twelve (12) FRP depth filters
- Twelve (12) RO units, model SW- 400, Each RO unit consisting of the following components
  - Five micron pre-filter assembly complete with valves, gauges, and interconnecting piping and fittings
  - One (1) High pressure pump assembly consisting of positive displacement pump and electric motor (TEFC)
  - Two (2) Reverse osmosis membrane, model Filmtec SW30-2421
  - One (1) Control panel assembly consisting of water quality monitor, low pressure switch and other instumentation.
- Twelve (12) Storage tank, food grade construction, FRP, 400 gallons
- Twelve (12) Level control on each storage tank. The level control shall start and stop the RO unit based on the water level in the tank.
- Twelve (12) Sub-micron air vent filters to prevent airborne particulate matter from entering the storage tank.
- Twelve (12) Repressurization pumps to provide 10gpm flow @ 40 psi. Plastic construction includes discharge pressure gauge, pressure switch, and check valve. 1.5 hp, 230-460V/GHZ/3ph
- Tweive (12) dosing systems to add soda ash to raise the ph of the product water
- . Twelve (12) dosing systems to add calcium chloride to raise the LSI of the product water
- Twelve (12) Accumulator tank stores pressure and prevents frequent on/off cycle of the repressurization pump, 80 gallons capacity.

# Please note that the offer does not include price for.

Raw water booster pumps

## MISCELLANEOUS

All structural steel will be cleaned and painted with one (1) prime cost, and one (1) finished epoxy cost. All pre-painted items such as pipe, valves, instruments, etc., will be shipped with the manufacturer's standard coating.

# SERVICES PROVIDED BY CULLIGAN

Culligan will design and manufacture the complete system detailed herein.

## DRAWINGS

Culligan will provide the following drawings after order placement.

- Overall system process and instrumentation diagram
- General equipment layout

# INSTALLATION AND OPERATING INSTRUCTIONS

Two (2) installation and operating instruction binders will be supplied. They will contain information needed for the installation and operation of each of the major components in the water treatment system.

# START-UP SERVICES

Culligan can provide a Field Engineer for erection guidance and to start-up the system. The owner or his representative would be present to witness this start-up.

The owner or his agent would notify Culligan International of Northbrook, Illinois at least three (3) weeks prior to start-up. Culligan International would schedule a factory trained Service Engineer to be on the job site as close as possible to the desired date. Start-up may be purchased at \$600/day plus expenses.

As a part of the start-up of the plant, the Culligan Engineer would conduct a one (1) day operations and maintenance seminar to train the owner's operators. Culligan would agree to train a maximum of six (6) of the owner's personnel during this seminar. If additional training time were required over this period due to no fault of Culligan, it could be purchased at \$600.00 per day plus all travel and living expenses.

## METHOD OF SHIPMENT

All pressure vessel internals will be factory installed and shipped in place.

Instruments, flow indicators, gauges and other fragile items will be packed and shipped separately, as required.

Filter media will be shipped in bags or drums for loading at the job site by the purchaser.

# **CUSTOMER RESPONSIBILITIES**

- 1. Preparation of foundations, housing of the equipment, alignment of pumps, etc.
- Inlet, drain and service piping to and from the equipment/skids including pipe supports and all interconnecting piping.
- 3. All appropriate electrical and control connections to and between equipment skids.
- Operating facilities such as 460/60/3 and 110/60/1 electrical power, and oil free 80 psig air to various skids including starters.
- Raw water of the analysis in sufficient quantities and pressure for operation of the system.
- All chemicals required for start-up, testing and operation of the system.
- Payment of all applicable sales and use taxes and permit fees.
- All labor and material required for unloading and storage of material at site.
- Adequate ventilation facilities in the plant room.
- 10. All environmental and/or discharge-related applications, permits, surcharges, inspections, and associated fees.
- All building and/or installation-related applications, permits, surcharges, inspections, and associated fees.
- Appropriate storage and safety equipment for the chemicals being used.

11/02/98 17:22 FAX 14062282614 Fluid Systems Corporation

ROPRO Version 6.0

09 Date: 21-Oct-1998

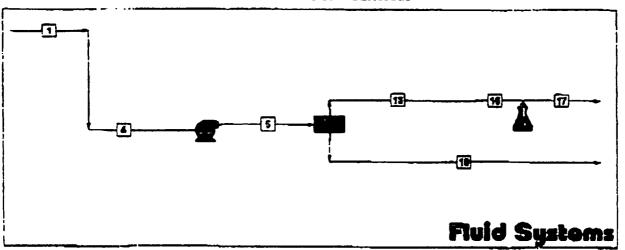
Project: NORTHEAST MONTANA Description: 0.29 gpm water system

Type: Single Pass Design

PROJECT SUMMARY

Prepared By: sma

#### PROCESS FLOW DIAGRAM



RO Recovery [13/4] = 7.5% Design Temperature = 50.0 Deg F Overall System Rec [17/(4+15)] = 7.5%

PASS 1 Array Recovery [13/4] = = 7.5t Element Age = 3.00 Years

Fouling Allovance (FA) = 20.0%

Bank Element Type		Floms /Tube	Avg Flux Avg
1 SC 2521 SW	1	1	19.8
2 8C 2521 8W	1	1	19.5
System/Pass Total			19.6

	Pressure with FA	Plow Rate	TDS 180C	Hardness	Chlorida
8tream	(Psig)	(UEGPM)	(mg/L)	(CaCD3)	(mg/L)
1	0.0	4.0	11578.88	5423.3	6806.0
4	0.0	4.0	11578.88	5423.3	6806.0
5	954.8	4.0	11578.88	5423.3	6806.0
13	0.0	0.3	27.32	3.7	15.6
16	0.0	0.3	27.32	3.7	15.6
17	0.0	0.3	236.21	3.7	15.6
18	943.3	3.7	12515.54	5862.7	7356.6

naca: 41-ACE-13-0

Project: MORTHEAST MONTANA

Prepared By: sma

Description: 0.28 gpm water system Type: Single Pass Design

## ARRAY SUDGARY - PASS 1

Temp (Design/Avg) 50.0/ 65.0 Deg F Fouling Allowance (FA) 20.0% Conc. Pres w/o FA 802.2 Psig 0.3 USGPM Permeate Flow Pass Recovery 7.5% Inlet Pres w/o FA 813.6 Paig Inlat Pres W/FA 954.8 Paig

Bani	k	21cment	Type		/Tube		Age	tecot Pressure (picq)		Perm Back Pressure (Psig)
1	8C	2521 SW	•	1		1		0.0	3.0	0.0
2	SC	2521 8W	•	1	1	1	3.00	0.0	3.0	0.0

Bank	Total Teed (GPM)	Tube Food (GPM)	Total Conc. (GPM)	Tube Conc. (GPM)	Avg Flux (GFD)	Inlet Pres (Psig)	Avg NDP (Psig)	Bank DP (Psig)	Final Element Beta
1	4.0	4.0	3.8	3.8	19.8	813.6	702.0	2.8	1.057
2	3.8	3.8	3.7	3.7	19.5	807.8	691.9	2.7	1.059
System					19.6				

	Net Feed	RO Inlet	Conc.	Permoate
Streem Number	4	5	18	13
Concentration	(mg/L)	(mg/L)	(mg/l)	(mg/L)
Ca++	1395.00	1395.00	1508.03	0.95
Mg++	471.00	471.00	509.16	0.32
Na+	2250.00	2250.00	2431.71	8.95
K+	17.30	17.30	18.70	0.09
NH4+	0.00	0.00	0.00	0.00
2 <del>**</del>	0.00	0.00	0.00	0.00
Ba++	0.00	0.00	0.00	0.00
Fa++	0.00	0.00	0.00	0.00
Mn++	0.00	0.00	0.00	0,00
C03	0.00	0.00	0.00	0.00
ECO3-	274.00	274.00	296.12	2.37
504	495.00	495.00	535.12	0.19
Cl-	6B06.00	6806.00	7356.57	15.62
<b>3-</b>	0.00	0.00	0.00	0.00
P-	0.00	0.00	0.00	0.00
5102	10.00	10.00	10.81	0.03
CO2	91.60	91.60	91.60	90.80
Sum of Ions	11718.30	11718.30	12666.22	28.52
TD8 (180 C)	11578.88	11578.88	12515.84	27.32
PR	6.90	6.80	6.83	4.74
Hardness (as CaCO3)	5423.29	5423.29	5862.72	3.68
Osm Pressure (Paig)	108.36	108.36	117.12	0.29
Langlier Index	0.50	0.50	0.60	-6.99
Stiff-Davis Index	-0.15	-0.15	-0.08	

Membrane data file version: Apr-29-97

Concentrate exceeds solubility limit - see warnings sheet.

11/02/98 17:22 FAX 14062282614

MYERY VELABOUR DIV

Uate: 21-0st-1998

Project: NORTHEAST MONTANA

Prepared By: spa

Description: 0.28 gpm water system

Type: Single Pass Design

CHEMICAL ADDITION

No Chemical Treating

CONCENTRATE SATURATION DATA - STREAM 18

Langlier Indez = 0.599 <= Warning: Scaling Potential

Stiff-Davis Index = -0.082 Ratio [Ca][SO4] to Kep(CaSO4) = 0.30

Ratio \$102 concentration to saturation concentration = 0.13

DESIGN WARRINGS - PASS 1: None

APPROXIMATE PUMPING POWER REQUIREMENTS (KW)

Food pumping power (w/FA) 865.0% efficiency 2.56 Interbank pumping power 865.0% efficiency 0.00

## ROTE

This projection is the anticipated performance and is based on nominal properties of the elements, with manifold losses as included.

The fouling allowance option (if included) increases the required 'clean water' not driving pressure by the stated percentage. Program default values are estimates only, and may not be representative of the actual fouling potential of the water source.

----. 44-wu \$12

Project: NORTHEAST MONTANA

Prepared By: sma

Description: 0.28 gpm water system
Type: Single Pass Design

# PRODUCT STREAM SUMMARY

Stream	Name	Stream Flow Rate (USGFM)			
13	Permate	0	50.0	65.0	
14	Stripped Permeat	Ò	50.0	65.0	
15	Feed Bypass	Ó	50.0	65.0	
16	Blended Product	ā	50.0	65.0	
17	Treated Product	ō	50.0	65.0	

# CHEMICAL ADDITION

0.8 lb/day of 994 Sode Ash (Na2CO3) is required to achieve the target pH in stream [17].

# PRODUCT STREAM COMPOSITIONS

Streem Number	19	14	15	16	17
Concentration	(mg/L)	(mg/L)	(mg/L)	(mg/l)	(mg/L)
			• • •	<b>,</b> ,	V
C2++	0.95	0.95	1995.00	0.95	0.95
Hg++	0.32	0.32	471.00	0.32	0.32
Na+	8.95	8.95	2250.00	8.95	99.64
萬+	0.09	0.09	17.30	0.09	0.09
MH4+	0.00	0.00	0.00	0.00	0.00
\$ <b>2</b> ++	0.00	0.00	0.00	0.00	0.00
Ba++	0.00	0.00	0.00	0.00	0.00
Te++	0.00	0.00	0.00	0.00	0.00
Mn++	0.00	0.00	0.00	0.00	0.00
CO3	0.00	0.00	0.00	0.00	1.63
EC3-	2.37	2.37	274.00	2.37	239.92
<b>\$04</b>	0.19	0.19	495.00	0.19	0.19
Cl-	15.62	15.62	6806.00	15.62	15.62
H03-	0.00	0.00	0.00	0.00	0.00
<b>T-</b>	0.00	0.00	0.00	0.00	0.00
8i02	0.03	0.03	10.00	0.03	0.03
<b>CO2</b> 3	90.80	90.80	91.50	90.80	5.06
Sum of Ions	20.52	28.52	11718.30	28.52	<b>958.29</b>
TDS (180 C)	27.32	27.32	11578.68	27.32	236.21
₽Ħ	4.74	4.74	6.80	4.74	8.00
Hardness (as CaCO3)	3.68	3.68	5423.29	3.68	3.68
Osm Prossure (Psig)	0.29	0.29	108.36	0.29	2.78
Langlier Index	-6.99	-6.99	0.50	-6.99	-1.65
Stiff-Davis Index	***		-0.15		700

11/02/98 17:22 FAX 14062282614

Project: NORTHEAST MOSTANA
Prepared By: sma

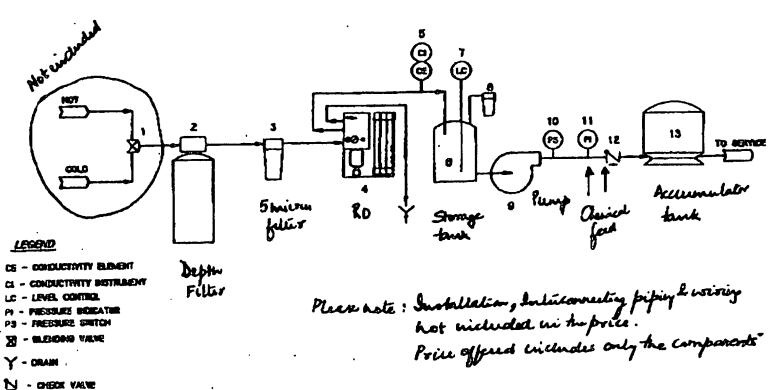
Description: 0.28 gpm water system Type: Single Pass Design

ELEMENT BY PLEMENT DATA - PAGE 1

Bank	Element	Inlet Pressure (Psig)	Diff Pressure (Psig)	MDP (Paig)	Element Flux GFD	m Value	Beta	Fermosto TDS (mg/L)
1	1 Avy	613.6	2.8	697.9 702.0	19.8 19.8	-0.048 -0.048	1.057 1.057	26.6 26.6
2	yad T	907.9	2.7	687.6 691.9	19.5 19.5	-0.047 -0.047	1.059	29.2 28.2

# Ø 08

# Storage and Repressurization



# BAKER BOTTS LLP

THE WARNER 1299 PENNSYIVANIA AVE., NW WASHINGTON, DC 20004-2400 202.639.7700 FAX 202.639.7890 AUSTIN
BAKU
DALLAS
HOUSTON
LONDON
MOSCOW
NEW YORK
WASHINGTON

STEVEN L. LEIFER 202-639-7723 sleifer@bakerbotts.com

September 12, 2000

# VIA OVERNIGHT MAIL

Mr. Nathan Wiser
U.S. Environmental Protection Agency
Office of Enforcement, Compliance, and Environmental Justice
Technical Enforcement Program (8ENF-T)
999 18th Street, Suite 500
Denver, CO 80202-2466

Re: Amended SDWA Order, Docket No. SDWA-8-99-68

Dear Mr. Wiser:

Pioneer Natural Resources USA recently conducted investigatory activities near the old Mesa Petroleum, or "Biere," wells, located at the south flank of the East Poplar Oil Field. Enclosed for your information is a Field Investigation Report prepared by Pioneer's technical consultant, CH2M Hill, which summarizes the results of the groundwater sampling and other measures implemented at the site. A copy of the Report also has been provided to the Fort Peck Tribal Environmental Officer.

Pioneer continues its efforts to determine whether the Biere wells could represent a source of local contamination and to identify any remedial measures that may be necessary. We shortly will send you a summary of the next phase of planned response activities. If you have any questions concerning the enclosed information or any other aspect of Pioneer's response program, please let me know.

Sincerely.

Steven L. Leifer

Enclosure

c: Jennifer G. Fry, Pioneer Natural Resources USA, Inc. John W. Ross, The Brown Law Firm

Received Office of Enforcement

SEP 1 3 2000

Compliance & Env. Justico



Office of Enforcement
SEP 1 x 2000
Compliance & Env. Justice

September 12, 2000

Mr. Nathan Wiser US EPA 999 18th Street, Suite 500 Denver, CO 80202

Re: Northeast Montana Water Conditioning

Dear Mr. Wiser;

Enclosed please find a copy of the Invoice from Nemont for the month of August, 2000. If there are any questions please call me at (504)561-2594.

Yours truly,

Sidney W. Campbell

Operations Manager

cc: James Baine, Murphy
Mike Webster, Crowley et al
Wilbur Dover, Pioneer
J. David Tucker, Grace
Candace Walker, Marathon
John Fognani, El Paso Energy



September 26, 2000

Mr. Nathan Wiser US EPA 999 18th Street, Suite 500 Denver, CO 80202

Re: Northeast Montana Water Conditioning

Dear Mr. Wiser;

Enclosed please find a copy of the Invoice from Nemont for the month of July, 2000. If there are any questions please call me at (504)561-2594.

Yours truly,

Operations Manager

cc: James Baine, Murphy
Mike Webster, Crowley et al
Wilbur Dover, Pioneer
J. David Tucker, Grace
Candace Walker, Marathon
John Fognani, El Paso Energy

Received
Office of Enforcement
OCT 0 > 2000

Compliance & Env. Justice



October 13, 2000

Mr. Nathan Wiser **US EPA** 999 18th Street, Suite 500 Denver, CO 80202

Re: Northeast Montana Water Conditioning

Dear Mr. Wiser;

Enclosed please find a copy of the Invoice from Nemont for the month of September, 2000. If there are any questions please call me at (504)561-2594.

Sidney W. Campbell
Operations Manage

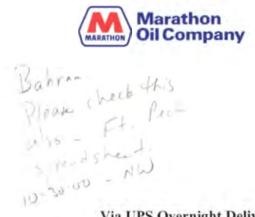
cc: James Baine, Murphy Mike Webster, Crowley et al Wilbur Dover, Pioneer J. David Tucker, Grace Candace Walker, Marathon John Fognani, El Paso Energy

Received Office of Enforcement

OCT 16 2000

Compliance & Env. Justice

Patrick G. Pitet Region Counsel Rocky Mountain Region



1501 Stampede Avenue Cody, WY 82414-4721 Telephone 307/587-4961, Ext. 3275

Direct Dial: 307/527-3275 Fax: 307/527-3264

October 24, 2000

Office of Enforcement

OCT 9 5 2000

Compliance & Env. History

# Via UPS Overnight Delivery

U. S. Environmental Protection Agency
Attn: Mr. Nathan Wiser
Office of Enforcement, Compliance and Environmental Justice
Technical Enforcement Program (8ENF-T)
999 18th Street, Suite 500
Denver, Colorado 80202-2466

Re: First Amended Emergency Administrative Order under Section 1431 of the

SDWA Docket No. SDWA - 8-99-68

## Gentlemen:

On February 24, 2000, I sent you various documents, numbered 000001 through 000633, requested in Section VI (B) of the referenced Order. In checking through our originals, we noticed that the attached documents were missing from the set we sent you. They are enclosed to complete the original set.

Very truly yours,

Patrick G. Pitet

PGP:ckj

N:\Legal\PGP\EPA Region VIII -Additions to Response to Fort Peck Data Request (10-24-00).doc



REGION 8
999 18<sup>TH</sup> STREET - SUITE 300
DENVER, CO 80202-2466
http://www.epa.gov/region08

NOV 3 0 1220

Ref: 8ENF-T

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Samson Investment Company Corporation Trust Company of Nevada 6100 Neil Road #500 Reno, NV 89511

> RE: Second Amended Emergency Administrative Order under Section 1431 of the SDWA Docket No. SDWA-8-99-68

Dear Samson Investment Company:

Enclosed is a Second Amended Emergency Administrative Order issued under Section 1431 of the Safe Drinking Water Act (SDWA), 40 U.S.C.§ 300i. This Order amends the previously issued Order bearing the same docket number, first issued on September 30, 1999, and first amended on November 5, 1999. The United States Environmental Protection Agency (EPA) has learned that, in early 1993, Samson Investment Company acquired all issued and outstanding stock of Grace Petroleum Corporation, becoming its successor in interest. Accordingly, EPA has amended the Order to add Samson Investment Company (and its subsidiary Samson Hydrocarbons Company) as Respondents and remove W.R. Grace & Company-Conn. as a Respondent. All other significant aspects of the existing Order remain unchanged.

The Order continues to be based on contamination of the ground water in and around the area of the East Poplar Oil Field within the boundary of the Fort Peck Indian Reservation in Roosevelt County, Montana. EPA has identified the presence of the contaminant benzene and a substantial increase in the total dissolved solids levels in the Quaternary Deposits. The presence of these contaminants in the Quarternary Deposits, an Underground Source of Drinking Water (USDW), may present an imminent and substantial endangerment to the health of local residents who drink and use this water. EPA has also determined that the Respondents of the Order, through the operations of the oil and gas production facilities in the East Poplar Oil Field, have caused or contributed and/or are continuing to cause and contribute to the endangerment of the USDW.

The enclosed Order sets forth the actions that you must make to, among other things, ensure that the people served by the USDW are provided with safe drinking water. The penalties for failing to comply are set forth in the Order. The Order requires that you continue to provide temporary safe drinking water to identified residences, submit well, tank, pipeline and pit information, and submit geologic and hydrologic field information. It is also anticipated that additional Orders will be issued to the parties responsible for the historic and/or ongoing Quaternary aquifer contamination in the East Poplar Oil Field. In any such subsequent Order(s), EPA will, in a phased approach, require further study and/or plans for containment, diversion, or remediation of the Quaternary aquifer.

EPA strongly urges all Respondents to consider investigating their oil production-related appurtenances (i.e. oil well(s), injection well(s), tank(s), pipeline(s), pit(s)) as an activity to better refine the source(s) of contamination of the Quaternary aquifer. EPA believes that there may still be on-going contamination of the Quaternary aquifer. EPA will gladly assist such efforts in any way possible. Such investigation may include such activities as physical inspection, pressure testing, excavation, or ground water monitoring, depending on the appurtenance.

The issuance of this Order is consistent with EPA's goal of protecting human health and the environment, including working to ensure the provision of safe drinking water to the affected residents. With regard to this Order, please contact Nathan Wiser at (303) 312-6211 or write Mr. Wiser at the address provided above, mail code 8-ENF-T.

Sincerely,

Comelly E. Means

Connally E. Mears, Director Technical Enforcement Program Office of Enforcement, Compliance and Environmental Justice

## Enclosure

cc: Arlyn Headdress, Chairman, Fort Peck Tribal Executive Board

Deb Madison, Assiniboine and Sioux Tribes Environmental Program Manager

Doug Endreson, Tribal Counsel, Assiniboine and Sioux Tribes George Hudak, Montana Board of Oil and Gas Conservation

bcc: Nathan Wiser, 8ENT-T Jim Eppers, 8ENF-L Wendy Thomi, 8MO Jim Boyter, 8MO



REGION 8
999 18<sup>TH</sup> STREET - SUITE 300
DENVER, CO 80202-2466
http://www.epa.gov/region08

NOV 21 2000

Ref: 8ENF-T

Deb Madison, Manager Environmental Programs Assiniboine & Sioux Tribes P.O. Box 1027 Poplar, Montana 59255

Re: East Poplar Oilfield Area Water Sample Results.

Dear Deb,

Enclosed is a complete copy of all the sample results collected on behalf of EPA from various homes located in the East Poplar Oilfield, as well as samples from the City of Poplar water supply and from brine collected prior to injection into two injection wells in the East Poplar Oilfield. Also included are two copies of a spreadsheet consolidating the sample results, and a recent printout of drinking water quality standards from the EPA webpage. Below I describe the enclosures in more detail. I appreciate your willingness to accommodate these sample results. Further, I expect that individual residents may soon visit your office to obtain copies of these results. Please feel free to provide copies to them

The following are included as enclosures:

- 1. East Poplar sample results spreadsheet sorted by sampling site, then alphabetically by target compound;
- 2. East Poplar sample results spreadsheet sorted by sampling site, then chronologically by sample date;
- 3. Printout of Maximum Contaminant Levels, applicable to public drinking water systems;
- 4. Copies of all sampling and analysis plans developed for use when collecting and analyzing samples;
- 5. Sample results from January 1999 sampling event;
- 6. Sample results from March 1999 sampling event;



- 7. Sample results from June 1999 sampling event;
- 8. Sample results from November 1999 sampling event;
- 9. Sample results from January 2000 sampling event; and
- 10. Sample results from September 2000 sampling event.

I hope that these sample results are helpful to you and to the residents nearby. If you have any questions, please feel free to contact me at (303) 3.12-6211.

Sincerely,

Nathan M. Wiser, Environmental Scientist

Technical Enforcement Program

## Enclosures

Doug Endreson (w/out encl.)
Sonosky, Chambers, Sachse & Endreson
1250 Eye Street, N.W.
Washington, DC 20005

Barbara Burkland (w/out encl.) (8MO) Bernadette Tsosie (w/out encl.) (8MO)



REGION 8 999 18<sup>TH</sup> STREET - SUITE 300 DENVER, CO 80202-2466

http://www.epa.gov/region08

NOV 21 2000

CONCURRENCE

Ref: 8ENF-T

Deb Madison, Manager Environmental Programs Assiniboine & Sioux Tribes P.O. Box 1027 Poplar, Montana 59255

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- 6. Sample results from March 1999 sampling event;



Printed on Recycled Paper

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- 8. Sample results from November 1999 sampling event;
- 9. Sample results from January 2000 sampling event; and
- 10. Sample results from September 2000 sampling event.

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Sincerely,

Nathan M. Wiser, Environmental Scientist Technical Enforcement Program

## Enclosures

cc: Doug Endreson (w/out encl.)

Sonosky, Chambers, Sachse & Endreson

1250 Eye Street, N.W. Washington, DC 20005

Barbara Burkland (w/out encl.) (8MO) Bernadette Tsosie (w/out encl.) (8MO)

bcc: Jim Eppers (8ENF-L)



REGION 8
999 18<sup>TH</sup> STREET - SUITE 300
DENVER, CO 80202-2466
http://www.epa.gov/region08

NOV 2 2 2000

Ref: 8ENF-T

VIA FACSIMILE AND CERTIFIED MAIL RETURN RECEIPT REQUESTED

Deb Madison, Manager Environmental Programs Assiniboine & Sioux Tribes P.O. Box 1027 Poplar, Montana 59255

Re:

Notice of Proposal to Amend Safe Drinking Water Act Emergency Administrative Order Docket No. SDWA-8-99-68 East Poplar Oilfield

Dear Ms. Madison:

The United States Environmental Protection Agency, Region 8 ("EPA") proposes to modify the existing above-referenced Emergency Administrative Order. As you know, this Order requires five named Respondents to submit oil production documentation and to supply drinking water to 20 residences located in and around the East Poplar Oilfield due the presence of groundwater contamination. Staff at EPA have suggested that the list of Respondents should be amended so as to remove W.R. Grace & Company and add Samson Investment Company.

The reason for this proposed amendment is that, in early 1993, Samson Investment Company purchased the Grace Petroleum Corporation, a subsidiary of W.R. Grace & Company. The Grace Petroleum Corporation engaged in oil production in the East Poplar Oilfield between 1976 and 1986. In purchasing the Grace Petroleum Corporation, Samson Investment Company also inherited all of Grace Petroleum Corporation's former liabilities, including any associated with their oil production operations in the East Poplar Oilfield between 1976 and 1986. Hence, based on information currently available, it appears that W.R. Grace & Company's liability, as the parent company of the Grace Petroleum Corporation, was transferred to Samson Investment Corporation.

Please feel free to supply any additional information regarding this issue. Pending final management approval, this action is proposed to occur no later than December 1, 2000. As in the past, you will receive a copy of the amended Order. If you have any questions about this matter, please feel free to contact Nathan Wiser of my staff at (303) 312-6211.

Sincerely,

Connally E. Mears, Director

Technical Enforcement Program

CC: Doug Endreson
Sonosky, Chambers, Sachse & Endreson
1250 Eye Street, N.W.

Washington, DC 20005

Barbara Burkland (8MO) Bernadette Tsosie (8MO) Jim Eppers (8ENF-L)



REGION 8
999 18<sup>TH</sup> STREET - SUITE 300
DENVER, CO 80202-2466
http://www.epa.gov/region08

NOV 22 2000

Concurrence Copy

Ref: 8ENF-T

VIA FACSIMILE AND CERTIFIED MAIL RETURN RECEIPT REQUESTED

Deb Madison, Manager Environmental Programs Assiniboine & Sioux Tribes P.O. Box 1027 Poplar, Montana 59255

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NW SENE-L

11-22-00

11/27/00

Please feel free to supply any additional information regarding this issue. Pending final management approval, this action is proposed to occur no later than December 1, 2000. As in the past, you will receive a copy of the amended Order. If you have any questions about this matter, please feel free to contact Nathan Wiser of my staff at (303) 312-6211.

Sincerely,

Connally E. Mears, Director Technical Enforcement Program

cc: Doug Endreson Sonosky, Chambers, Sachse & Endreson 1250 Eye Street, N.W. Washington, DC 20005

> Barbara Burkland (8MO) Bernadette Tsosie (8MO) Jim Eppers (8ENF-L)

• • • • • • • •



Office of Enforcement
DEC 0 1 2003

November 27, 2000

Mr. Nathan Wiser US EPA 999 18th Street, Suite 500 Denver, CO 80202

Re: Northeast Montana Water Conditioning

Dear Mr. Wiser;

Enclosed please find a copy of the Invoice from Nemont for the month of November, 2000. If there are any questions please call me at (504)561-2594.

Yours truly,

Sidney W. Campbell
Sidney W. Campbell
Operations Manager

cc: James Baine, Murphy
Mike Webster, Crowley et al
Wilbur Dover, Pioneer
J. David Tucker, Grace
Candace Walker, Marathon
John Fognani, El Paso Energy



REGION 8
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DENVER, CO 80202-2466
http://www.epa.gov/region08

NOV 30 mm

Ref: 8ENF-T

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

W.R. Grace and Company - Conn. Prentice Hall Corporation System, Inc. P.O. Box 1691 Helena, MT 59624-1691

RE: Second Amended Emergency
Administrative Order under
Section 1431 of the SDWA
Docket No. SDWA-8-99-68

Dear W.R. Grace and Company - Conn.:

Enclosed is a Second Amended Emergency Administrative Order issued under Section 1431 of the Safe Drinking Water Act (SDWA), 40 U.S.C.§ 300i. This Order amends the previously issued Order bearing the same docket number, first issued on September 30, 1999, and first amended on November 5, 1999. The United States Environmental Protection Agency (EPA) has learned that, in early 1993, Samson Investment Company acquired all issued and outstanding stock of Grace Petroleum Corporation, becoming its successor in interest. Accordingly, EPA has amended the Order to add Samson Investment Company (and its subsidiary Samson Hydrocarbons Company) as Respondents and remove W.R. Grace & Company-Conn. as a Respondent. All other significant aspects of the existing Order remain unchanged.

The Order continues to be based on contamination of the ground water in and around the area of the East Poplar Oil Field within the boundary of the Fort Peck Indian Reservation in Roosevelt County, Montana. EPA has identified the presence of the contaminant benzene and a substantial increase in the total dissolved solids levels in the Quaternary Deposits. The presence of these contaminants in the Quarternary Deposits, an Underground Source of Drinking Water (USDW), may present an imminent and substantial endangerment to the health of local residents who drink and use this water. EPA has also determined that the Respondents of the Order, through the operations of the oil and gas production facilities in the East Poplar Oil Field, have caused or contributed and/or are continuing to cause and contribute to the endangerment of the USDW.

The enclosed Order sets forth the actions that you must make to, among other things, ensure that the people served by the USDW are provided with safe drinking water. The penalties for failing to comply are set forth in the Order. The Order requires that you continue to provide temporary safe drinking water to identified residences, submit well, tank, pipeline and pit information, and submit geologic and hydrologic field information. It is also anticipated that additional Orders will be issued to the parties responsible for the historic and/or ongoing Quaternary aquifer contamination in the East Poplar Oil Field. In any such subsequent Order(s), EPA will, in a phased approach, require further study and/or plans for containment, diversion, or remediation of the Quaternary aquifer.

EPA strongly urges all Respondents to consider investigating their oil production-related appurtenances (i.e. oil well(s), injection well(s), tank(s), pipeline(s), pit(s)) as an activity to better refine the source(s) of contamination of the Quaternary aquifer. EPA believes that there may still be on-going contamination of the Quaternary aquifer. EPA will gladly assist such efforts in any way possible. Such investigation may include such activities as physical inspection, pressure testing, excavation, or ground water monitoring, depending on the appurtenance.

The issuance of this Order is consistent with EPA's goal of protecting human health and the environment, including working to ensure the provision of safe drinking water to the affected residents. With regard to this Order, please contact Nathan Wiser at (303) 312-6211 or write Mr. Wiser at the address provided above, mail code 8-ENF-T.

Sincerely,

Carrolly E, Means

Connally E. Mears, Director Technical Enforcement Program Office of Enforcement, Compliance and Environmental Justice

#### Enclosure

cc: Arlyn Headdress, Chairman, Fort Peck Tribal Executive
Board

Deb Madison, Assiniboine and Sioux Tribes Environmental Program Manager



REGION 8
999 18<sup>TH</sup> STREET - SUITE 300
DENVER, CO 80202-2466
http://www.epa.gov/region08

NOV 3 0 000

Ref: 8ENF-T

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

AMARCO Resources Corporation S.O.S. 2920 One Main Place Dallas, TX 75250

> RE: Second Amended Emergency Administrative Order under Section 1431 of the SDWA Docket No. SDWA-8-99-68

Dear AMARCO Resources Corporation:

Enclosed is a Second Amended Emergency Administrative Order issued under Section 1431 of the Safe Drinking Water Act (SDWA), 40 U.S.C.§ 300i. This Order amends the previously issued Order bearing the same docket number, first issued on September 30, 1999, and first amended on November 5, 1999. The United States Environmental Protection Agency (EPA) has learned that, in early 1993, Samson Investment Company acquired all issued and outstanding stock of Grace Petroleum Corporation, becoming its successor in interest. Accordingly, EPA has amended the Order to add Samson Investment Company (and its subsidiary Samson Hydrocarbons Company) as Respondents and remove W.R. Grace & Company-Conn. as a Respondent. All other significant aspects of the existing Order remain unchanged.

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Sincerely,

Camelly E. means

Connally E. Mears, Director Technical Enforcement Program Office of Enforcement, Compliance and Environmental Justice

#### Enclosure

cc: Arlyn Headdress, Chairman, Fort Peck Tribal Executive Board

Deb Madison, Assiniboine and Sioux Tribes Environmental Program Manager

bcc: Nathan Wiser, 8ENT-T Jim Eppers, 8ENF-L Wendy Thomi, 8MO Jim Boyter, 8MO



REGION 8
999 18<sup>TH</sup> STREET - SUITE 300
DENVER, CO 80202-2466
http://www.epa.gov/region08

NOV 30

Ref: 8ENF-T

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Samson Investment Company Attention: Environmental Services Two West Second Street, Samson Plaza Tulsa, OK 74103-3103

> RE: Second Amended Emergency Administrative Order under Section 1431 of the SDWA Docket No. SDWA-8-99-68

Dear Samson Investment Company:

Enclosed is a Second Amended Emergency Administrative Order issued under Section 1431 of the Safe Drinking Water Act (SDWA), 40 U.S.C.§ 300i. This Order amends the previously issued Order bearing the same docket number, first issued on September 30, 1999, and first amended on November 5, 1999. The United States Environmental Protection Agency (EPA) has learned that, in early 1993, Samson Investment Company acquired all issued and outstanding stock of Grace Petroleum Corporation, becoming its successor in interest. Accordingly, EPA has amended the Order to add Samson Investment Company (and its subsidiary Samson Hydrocarbons Company) as Respondents and remove W.R. Grace & Company-Conn. as a Respondent. All other significant aspects of the existing Order remain unchanged.

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Sincerely,

Carolly E. Mans

Connallý E. Mears, Director Technical Enforcement Program Office of Enforcement, Compliance and Environmental Justice

#### Enclosure

cc: Arlyn Headdress, Chairman, Fort Peck Tribal Executive Board

Deb Madison, Assiniboine and Sioux Tribes Environmental Program Manager

bcc: Nathan Wiser, 8ENT-T
 Jim Eppers, 8ENF-L
 Wendy Thomi, 8MO
 Jim Boyter, 8MO



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DENVER, CO 80202-2466
http://www.epa.gov/region08

Ref: 8ENF-T

NOV 30 mm

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Marathon Oil Company CT Corporation System 40 West Lawrence, Suite A Helena, MT 59624-1166

RE: Second Amended Emergency Administrative Order under Section 1431 of the SDWA Docket No. SDWA-8-99-68

Dear Marathon Oil Company:

Enclosed is a Second Amended Emergency Administrative Order issued under Section 1431 of the Safe Drinking Water Act (SDWA), 40 U.S.C.§ 300i. This Order amends the previously issued Order bearing the same docket number, first issued on September 30, 1999, and first amended on November 5, 1999. The United States Environmental Protection Agency (EPA) has learned that, in early 1993, Samson Investment Company acquired all issued and outstanding stock of Grace Petroleum Corporation, becoming its successor in interest. Accordingly, EPA has amended the Order to add Samson Investment Company (and its subsidiary Samson Hydrocarbons Company) as Respondents and remove W.R. Grace & Company-Conn. as a Respondent. All other significant aspects of the existing Order remain unchanged.

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Sincerely,

Carly E. Means

Connally E. Mears, Director Technical Enforcement Program Office of Enforcement, Compliance and Environmental Justice

#### Enclosure

cc: Arlyn Headdress, Chairman, Fort Peck Tribal Executive Board

Deb Madison, Assiniboine and Sioux Tribes Environmental Program Manager

bcc: Nathan Wiser, 8ENT-T Jim Eppers, 8ENF-L Wendy Thomi, 8MO Jim Boyter, 8MO



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DENVER, CO 80202-2466
http://www.epa.gov/region08

NOV 30 303

Ref: 8ENF-T

<u>CERTIFIED MAIL</u>
RETURN RECEIPT REQUESTED

Samson Hydrocarbons Company Prentice-Hall Corporation System, Inc. 1013 Centre Road Wilmington, DE 19805

> RE: Second Amended Emergency Administrative Order under Section 1431 of the SDWA Docket No. SDWA-8-99-68

Dear Samson Hydrocarbons Company:

Enclosed is a Second Amended Emergency Administrative Order issued under Section 1431 of the Safe Drinking Water Act (SDWA), 40 U.S.C.§ 300i. This Order amends the previously issued Order bearing the same docket number, first issued on September 30, 1999, and first amended on November 5, 1999. The United States Environmental Protection Agency (EPA) has learned that, in early 1993, Samson Investment Company acquired all issued and outstanding stock of Grace Petroleum Corporation, becoming its successor in interest. Accordingly, EPA has amended the Order to add Samson Investment Company (and its subsidiary Samson Hydrocarbons Company) as Respondents and remove W.R. Grace & Company-Conn. as a Respondent. All other significant aspects of the existing Order remain unchanged.

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Sincerely,

Camally E. Mas

Connally E. Mears, Director Technical Enforcement Program Office of Enforcement, Compliance and Environmental Justice

#### Enclosure

cc: Arlyn Headdress, Chairman, Fort Peck Tribal Executive Board

Deb Madison, Assiniboine and Sioux Tribes Environmental Program Manager

bcc: Nathan Wiser, 8ENT-T Jim Eppers, 8ENF-L Wendy Thomi, 8MO Jim Boyter, 8MO



**REGION 8** 

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NOV 30 777

Ref: 8ENF-T

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Murphy Exploration and Production Company CT Corporation System 40 West Lawrence, Suite A P.O. Box 1166 Helena, MT 59624-1166

> RE: Second Amended Emergency Administrative Order under Section 1431 of the SDWA Docket No. SDWA-8-99-68

Dear Murphy Exploration and Production Company:

Enclosed is a Second Amended Emergency Administrative Order issued under Section 1431 of the Safe Drinking Water Act (SDWA), 40 U.S.C.§ 300i. This Order amends the previously issued Order bearing the same docket number, first issued on September 30, 1999, and first amended on November 5, 1999. The United States Environmental Protection Agency (EPA) has learned that, in early 1993, Samson Investment Company acquired all issued and outstanding stock of Grace Petroleum Corporation, becoming its successor in interest. Accordingly, EPA has amended the Order to add Samson Investment Company (and its subsidiary Samson Hydrocarbons Company) as Respondents and remove W.R. Grace & Company-Conn. as a Respondent. All other significant aspects of the existing Order remain unchanged.

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Sincerely,

Connally E. Mears, Director Technical Enforcement Program Office of Enforcement, Compliance and Environmental Justice

#### Enclosure

Arlyn Headdress, Chairman, Fort Peck Tribal Executive CC:

Deb Madison, Assiniboine and Sioux Tribes Environmental Program Manager

bcc: Nathan Wiser, 8ENT-T Jim Eppers, 8ENF-L Wendy Thomi, 8MO Jim Boyter, 8MO



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Ref: 8ENF-T

<u>CERTIFIED MAIL</u>
<u>RETURN RECEIPT REQUESTED</u>

Pioneer Natural Resources USA, Inc. CT Corporation System 40 West Lawrence, Suite A Helena, MT 59624-1166

RE: Second Amended Emergency Administrative Order under Section 1431 of the SDWA Docket No. SDWA-8-99-68

Dear Pioneer Natural Resources USA, Inc.:

Enclosed is a Second Amended Emergency Administrative Order issued under Section 1431 of the Safe Drinking Water Act (SDWA), 40 U.S.C.§ 300i. This Order amends the previously issued Order bearing the same docket number, first issued on September 30, 1999, and first amended on November 5, 1999. The United States Environmental Protection Agency (EPA) has learned that, in early 1993, Samson Investment Company acquired all issued and outstanding stock of Grace Petroleum Corporation, becoming its successor in interest. Accordingly, EPA has amended the Order to add Samson Investment Company (and its subsidiary Samson Hydrocarbons Company) as Respondents and remove W.R. Grace & Company-Conn. as a Respondent. All other significant aspects of the existing Order remain unchanged.

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Connally E. Mears, Director Technical Enforcement Program Office of Enforcement, Compliance and Environmental Justice

#### Enclosure

cc: Arlyn Headdress, Chairman, Fort Peck Tribal Executive Board

Deb Madison, Assiniboine and Sioux Tribes Environmental Program Manager

bcc: Nathan Wiser, 8ENT-T Jim Eppers, 8ENF-L Wendy Thomi, 8MO Jim Boyter, 8MO



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DENVER, CO 80202-2466
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Ref: 8ENF-T

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Samson Hydrocarbons Company Attention: Environmental Services Two West Second Street, Samson Plaza Tulsa, OK 74103-3103

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Connallý E. Mears, Director Technical Enforcement Program Office of Enforcement, Compliance and Environmental Justice

#### Enclosure

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Deb Madison, Assiniboine and Sioux Tribes Environmental Program Manager

bcc: Nathan Wiser, 8ENT-T Jim Eppers, 8ENF-L Wendy Thomi, 8MO Jim Boyter, 8MO



### JAUG 1 0 1978 United States Department of the Interior

GEOLOGICAL SURVEY
P.O. BOX 2859
CASPER, WYOMING 82602

влн

August 7, 1978

Mr. J. L. Vinson
Exxon Company, U.S.A.
P. O. Box 2305
Houston, TX 77001

Dear Mr. Vinson:

With regard to your letter of July 25, 1978, the following leases are listed along with the new Indian contract numbers:

BLM-A-Montana	14-20-256	•
25-012245 25-012246-A 25-029305-A	23-004043 - 105494-2 61 23-004045 - 121426-061 23-004047 - 121620 - 0 61	

If you have any questions do not hesitate to contract this office.

Sincerely yours,

Joe Ono

Asst. Area Petroleum Accountant (for Area Oil & Gas Supervisor)

Marin Jo

## FORT PECK TRIBES

Assiniboine & Sioux

February 15, 1989



Pat Roddy
Bureau of Land Management
Miles City District Office
P.O. Box 940
Miles City, Montana 59301-0940

Dear Mr. Roddy:

This letter is a follow-up to our telephone conversation on February 14, 1989. In November of 1988, Mr. Tim Trottier, an enrolled member, brought a sample of water in to the Tribal Environmental Protection Office. He was complaining about the salt taste of his water and the increased costs of his conditioning system. Mr. Trottier lives in a Housing and Urban Development House on a scattered site. This site is located in NW\(\frac{1}{2}\)NW\(\frac{1}2\)NW\(\frac{1}{2}\)NW\(\frac{1}2\)NW\(\frac{1}2\)NW\(\frac{1}2

The two water analysis tests point out some very alarming facts. Chloride levels in the home well increased from 85 mg/l in 1985 to 5210 mg/l in 1988. The total dissolved solids increased from 2930 mg/l in 1985 to 11,200 mg/l in 1988. This office feels that there may be a salt water disposal problem which is permeating Mr. Trottier's well. This well has a depth of 68 feet.

Any help or direction you could give us in this matter would be greatly appreciated. If I can be of further help, please contact me at my office at 768-5155 EXT 2399 or at the mailing address of Fort Peck Tribes, P.O. Box 1027, Poplar, Montana 59255. Once again, thank you for your time and effort in this matter.

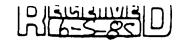
Sincerely

Debi Madison

Environmental Engineer

DDM/1c Enclosures





#### ENERGY LABORATORIES, INC.

P.O. BOX 30916 - 1107 SOUTH BROADWAY - BILLINGS, MT 59107-0916 - PHONE (406) 252-6325

		,		Lab. No. 85-5540
То	Bison Construction	(1)	Date _	6-4-85 tab
Address	P.O. Box 189_	Wolf Point, Montana	59201	

## WATER ANALYSIS REPORT

Reservation Drilling
Tim Trottier
Sampled 5-23-85 @ 1700
Submitted 5-29-85

CONSTITUENTS	MILLIGRAMS PER LITER
Potassium	6
Sodium	370
Calcium	250
Magnesium	235
Sulfate	1,520
Chloride	85
Carbonate	0
Bicarbonate	919
Nitrate-N	1.50
Iron	<0.03
Total Solids (Calculated)	2,930
Total Hardness as CaCO <sub>3</sub>	1,590
* Specific Conductance @ 25° C	3,470 Micromhos/cm
pH	7.6 Standard units

<sup>\*</sup>Remarks: Very hard water, Not suitable for domestic use and drinking. Total solids and sulfate exceed the maximums recommended by the U.S.P.H.S. for public water supplies.

<sup>&</sup>quot;The suitability of this water for drinking and/or other use is an interpretation based entirely upon the concentration of the constituents reported above. This analysis does not establish the presence or absence of other minor constituents, not reported above, which may effect the suitability of this water for drinking and/or other use.

#### BILLINGS AREA INDIAN HEALTH SERVICE P. L. 36-121

WELLL 1. 0 C Reservation Fort Peck Well Owner: Kenneth Trottier Home Na.: 11 NW1 NW1 NW1 NW1 Sec. 27, T28N, R51E Location: Drilled By: Reservation drilling Date: Project No.: Mt. 9-26 Contract No.: 10 Depth: Description of Formation: 0 to top soil 27 3 to yellow clay 27 to <del>52</del> . clay till 52 to gravel to to to to to to SIZES AND MATERIALS USED All Depths Measured from Top Surface of Well Slab Material Steel A-53-B Top Casing Line: Nominal I.D. ft. to 63 Depth Cased ft. ft. Any Reduced Casing Sizes: NA Grout Envelope: Thickness in. 21 Depth Grouted 10 ft. to Pitless Adapter: Make Model Depth of Discharge ft. CAP Type Well Screen: Make Johnson Model Stainless Steel Type · in. bength 5 ft. in. Diameter Slot ft. Depth Screened 63 ft. to · - 68 Slot in. ft. Slot Spacer(s) Fitting at Top Fitting at Bottom Packer Description Gravel or Sand Pack: Material in. Depth Thickness (Attach Gradation Curve) ft. Total Depth to Bottom of Well ſt. Total Depth to Bottom of Casing Total Depth to Bottom of Drop Pipe ft. Total Dapth to Pump Inlet ft.

LAW OFFICES

#### SONOSKY. CHAMBERS. SACHSE & ENDRESON

SUITE 1000

MARVIN J. SONOSKY
HARRY R. SACHSE
REID PEYTON CHAMBERS
WILLIAM R. PERRY
LLOYD BENTON MILLER (AE)
DOUGLAS B.L. ENDRESON (WI)
MYBA M. MUNSON (AE)
ANNE D. NOTO (MD)
KAY E. MAASSEN GOUWENS (AE)
RICHARD A. POULIN (AE)
MARY J. PAVEL (WA)
TARA A. SHER
JAMES E. GLAZE (AE)
COLIN CLOUD HAMPSON

NACOLE D. HESLEP (AE)
KYLE T. NAYBACK
OP COUNSEL
ARTHUR LAZARUS. JR.
ROGER W. DUBROCK (AE)
LINDSAY R. NAAS (MD. MN)

1250 EYE STREET. N.W.
WASHINGTON, D.C. 20005
(202) 682-0240
TELECOPIER (202) 682-0249

Anchorage Office Suite 700 900 West Fifth Avenue Anchorage. Alaska 99501 (907) 258-8377 Telecopier (907) 272-8332

Juneau Office 229 Fourth Street Juneau. Alaska 99801 (907) 586-5880 Telecopier (907) 586-5883

June 25, 1997

BY FEDERAL EXPRESS

Peggy Livingston, Esquire Region 8 Office General Counsel U.S. Environmental Protection Agency 999 18th Street, Suite 500 Denver, CO 80202

Re:

Assiniboine and Sioux Tribes (B112.31)

Dear Ms. Livingston:

As you know, we serve as general counsel to the Assiniboine and Sioux Tribes of the Fort Peck Reservation. During our May 23 conversation, I explained that in 1985 Mesa Oil Company plugged and abandoned a Class II Injection well -- Mesa Biere A-1-- on fee lands within the boundaries of the Fort Peck Reservation. The EPA has a record of the plugging dated January 11, 1985, which I enclose for your review. A recent USGS study has confirmed that this well is leaking significant amounts of brine into the alluvial aquifer above it and has contaminated the drinking water sources of at least two homesteads -- one tribal homesite and one fee homesite.

When the two homesteads' wells were drilled, the groundwater was of a quality that was fit for human consumption. Now, as you can see from the enclosed water quality tests (which I enclose from the Trottier homesite) the water is not fit for human consumption. The most recent study conducted by the USGS shows that the contamination is brine contamination and further shows that this contamination can be from only one source, the Biere A-1 Well.

As you know, the bond on this well has been released. As we discussed, this may be an

Peggy Livingston, Esquire June 25, 1997 Page 2

instance where the EPA could exercise its emergency powers authorized under 42 U.S.C. 300i to issue an emergency order to replug this defective plug. Your assistance in this matter is greatly appreciated.

I look forward to continuing our discussions of this significant problem.

Sincerely,

Mary J. Pavel

-Mary May

MJP:bnm Enclosure Form No. 2

NOTICE
THIS FORM BECOMES A
PERMIT WHEN STAMPED
APPROVED BY AN AGENT
OF THE BOARD.

## (SUBMIT IN QUADRUPLICATE)

TO

# BOARD OF OIL AND GAS CONSERVATION OF THE STATE OF MONTANA BILLINGS OR SHELBY

MAC 36-3.18(10)-S18020 MAC 36-3.18(10)-S18030 MAC 36-3.18(10)-S18140 MAC 36-3.18(10)-S18170 MAC 36-3.18(10)-S18200 MAC 36-3.18(10)-S18310 MAC 36-3.18(10)-S18330 MAC 36-3.18(14)-S18380

#### SUNDRY NOTICES AND REPORT OF WELLS

Notice of Intention to Drill	Subsequent Report of Water Shut-off
Notice of Intention to Change Plans	Subsequent Report of Shooting, Acidizing, Cementing
Notice of Intention to Test Water Shut-off	Subsequent Report of Altering Casing
Notice of Intention to Redrill or Repair Well	Subsequent Report of Redrilling or Repair
Notice of Intention to Shoot, Acidize, or Cement	Subsequent Report of Abandonment X
Notice of Intention to Pull or Alter Casing	Supplementary Well History .
Notice of Intention to Abandon Well	Report of Fracturing
.	

Following is a 'notice of intention to do work! on land 'owned leased' described as follows:

LEASE Biere

MONTANA ROOSEVELT

Well No. Biere #A-1 (SWD) 22 28N 51E

(m. sec.) (Township) Range (Meridian)

The well is located 1750 ft. from | XX | line and 140 ft. from | XX | line of Sec. 22

LOCATE WELL SITE ACCURATELY ON PLAT ON BACK OF THIS FORM.

The elevation of the ground or K.B. above the sea level is 2087! KB.

READ CAREFULLY

DETAILS OF PLAN OF WORK

READ CAREFULLY

"State names of and expected dopths to objective sands; show size tweights, and lengths of proposed cosings, rementing points, and all other important per posed work, particularly all details of Shooting, Acidiza 2, Fracturing (

## DETAILS OF WORK RESULT

Subject well was plugged on 9/15/84 by squeezing perfs w/140 sxs class "H" cement and filling 5k" casing and tubing w/110 sxs class "H" cement. Cut casing 4' below ground level. Welded cap on casing.

OCT 0 9 1984

EPA REGION VIII

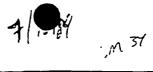
DRINKING WATER BRANCH

Approved subject to conditions on reverse of form	Company Mesa Petroleum Co.
Date	sy Kaule Marlown Randy Nordsven
By	Randy Nordsven Title Regulatory Agent
District Office Agent Title	Address P. O. Box 2009 Amarillo TX
	79189

BOARD USE ONLY
API WELL NUMBER

NOTE:—Reports on this form to be supmitted to the appropriate District for approval

WHEN USED AS PERMIT TO DRILL, PERMIT EXPIRES 90 DAYS FROM DATE OF APPROVAL IF WELL NOT SPUDDED OR EXTENSION REQUESTED.



	WEIES STATES ENVIRONS	DE TON DE TOMBO	
∠PA		G RECORD	
AME AND ADDRESS OF PERMITTED		LND ADDRESS OF CEMENTING CON	APANT
Mesa Petroleum Co.		Halliburton Services	- <del></del>
P.O. Box 2009		P.O. Box 2374	
Amarillo, Texas 79189		Hilliston, N.D. 5880	1 (it never was germi PERMIT NUMBER MTRZ1.PR-6005 L
	STATE COUNTY	<del>-</del>	PERMIT NUMBER
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	SURFACE LOCATION DESCRIPTION		
<u> </u>	Cil rot dil rot		INNSHIP 284 RANGE 515
	LOCATE WELL IN TWO DIRECTION	s from Hearest Lines of Quart رم لار	er section and driving unit
	Surface	Die	ere and out
	TYPE OF PERMIT		in which the fluid was placed and
	1. TE OF FERMIN	the method used in introducin	
E E	E lingivique:		<u> </u>
	C Area	Coment was numbed	and perfs squeezed
		Cement was our dea	and seriff sedected
	1	in well hore rema	ining hole filled to
	Number of Wells	111 WC 11 12 21 21 12 12	: 11.1d 11b1C 11.11CG 15
		surface with cemen	t by numeica
S	1. ,	201-11-2	
	† ·		•
CASING AND TURING RECORD A	FIER PLUGGING	WELL ACTIVITY	METHOD OF EMPLACEMENT OF
SEE   WILE, FT)   PUT IN WE - (FT)	LEFT IN WELL FTI ! HOLE SEE		CEMENT FLUGS
C 3/9"   24#   30R'	CCR!   121; "	Arine Discossi	Ci The Easence Method
= 1/2" 15 5# 1 740'	7201 1 93	☐ Enhanced © scovery	The Dump Bailer Method
2 7/9"   6 5= 1 206"	are: 1 4,75%	C Hydrocardon Storage	☐ The T∞o-Plug Method
	1	Lasse Name	Well Number
CEMENTING TO PLUS AND ABANDON DATA	1 PLUG et 1 PLUG et	1   FLUG #3   FLUG #4	PLUG #5   PLUG #5   PLUG #7
Symenting Date 0/15/21	SqueszecFilled	hole	
Size of Hole or Pipe in which hug flaced (inches)	1 4.75 1 4.75		!
Design to Borrow of Tubing or Stati Albeign 1	1 806' 1 806'		
Spark of Cement Used reach aluga	( 145 ( 110	1 1	!
Sturm Valume Pamped (ca. %)	1 132 1 143		
Calculated Tac or Plug (ft.)	1 185' Surface		
Measured foo of Plug of sapped to a	1774 Burfac	<del></del>	
Siarn William (Gall)	1.6 116		
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<del></del>	UST ALL OPEN HOLE AND TOP PERFO	<del></del>	
From	834	Fram	
796	8:- '	<del></del>	
	<del></del>		
Signature of Comenter or Authorized Representative	Signetu	re at EPA Representative	
		re of EPA Representative	
		re at EPA Regrassmature	
2 1 1			
Randy Nordsven Kande Man	CERTIFICATION	ON	nder my direction or
	CERTIFICATIOn this document and all atta	DN chments were prepared u	
Randy Nordsven Rande Man.  I certify under penalty of law th	CERTIFICATIOn this document and all attains a system designed to assure	DN chments were prepared u e that qualified personnel	properly gather and
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From: Patrick Roddy

To : File

Subject: Trottier Water Well

NW NW NW NW Sec. 27, T.28N.,R.51E.

Roosevelt County

1. This office was notified of probable salt water invasion into the subjewell on February 15,1989 by Debi Madison, Environmental Engineer for FortPeck Tribes. The well is 68 feet deep. Changes in water quality are as fol

	TDS	Chlorides	Sodium
1985	2930 mg/l	85 mg/l	370 mg/l
	<u>-</u>		_
1999	11200 mg/l	5210 mg/l	968 mm/1

2. Dil and gas wells in the vicinity of the Trottier well are :

AMARCO USA#1-27 NWNW 27-28N-51E P&A TD 5900' 650' SE of well

Mesa Biere#1-W SWD SWNWSW 22-28N-51E F&A TD 998' 1900' N of well

Mesa Biere#1-22 NWSW 22-28N-51E P&A TD 5788' 2100' N of well

Juniper Petroleum #1-21 NWSE 21-28N-51E SI? TD 5966" 3000' NW of well

Murphy Unit#72 SWSE 22-28N-51E P&A TD 5000'+ 3300' ENE of well

Murphy Unit#63 SWNE 27-28N-51E P&A TD 8521' 3650' SE of well

TXD Buckles A-1 SENW 22-28N-51E F&A TD 5934' 4000' N of well

TXO Buckles SWD SENW 22-28N-51E F&A TD 960' 4000' N of well

3. Trottier Water Well: This well is situated within glacial drift which lies immediately over the impermeable Bear Paw Shale. The aquifer is probably located at the boundary of the shale and the glacial drift. Assuming some relationship between surface topography and the underlying unconformity the aquifer could be expected to be flowing westward into the Poplar River alluvial valley.

Chen-Northern, Inc.

#### WATER ANALYSIS

	dian Health Service Tim Trottier 94995 11/21/88	Date Job No. Sheet	December 28 87-952 3 of 3	, 1988 Date Analyze
pH, standard units: Conductivity, umhos/cm:	6.7 15400		ŧ	11/23/88 12/01/88
Total Dissolved Solids (at 180 C), mg/l; Sodium Adsorption Ratio (SAR):	11200 <sup>?</sup> 4.84			11/30/88
Total Hardness as CaCO3: Calcium as Ca: Magnesium as Mg: Sodium as Na: Potassium as K:	CATIONS 7555 mg/l 1230 mg/l 1090 mg/l 968 mg/l 20 mg/l Total Cations:	151.09 61.38 89.71 42.11 0.51 193.71	<pre></pre>	12/07/88 12/07/88 12/07/88 12/15/88
	ANIONS			•
Total Alkalinity as CaCO3: Bicarbonate Alkalinity as HCO3 Carbonate Alkalinity as CO3: Hydroxide Alkalinity as OH: Chloride as Cl: Fluoride as F: Nitrate + Nitrite as N: Sulfate as SO4: Catio	499 mg/l 609 mg/l 0 mg/l 0 mg/l 5210 mg/l 0.3 mg/l 4.83 mg/l 4.83 mg/l Total Anions:	9.98 9.98 0.00 0.00 146.97 0.02 0.35 26.65 183.97 9.74	meq/l meq/l meq/l meq/l meq/l meq/l meq/l meq/l meq/l	12/05/88 11/30/88 11/30/88 12/05/88 11/30/88
Total Iron as Fe: Total Manganese as Mn:	0.70 mg/l 1.10 mg/l			12/06/83 12/06/88

Chock He, angles

## ASTRO-CHEM SERVICE LABORATORY

4102 2nd Ave. West

Williston, North Dakota 58801

Phone 701-572-7355

P. O. Box 972

WATER ANALYSIS REPORT

SAMPLE NUMBER: W-89-0472

DATE OF ANALYSIS 3/10/89

COMPANY: JAHA DRILLING

CITY: FROID

STATE: MT

WELL NAME AND/OR NUMBER: TIM TROTTIERS

DATE RECEIVED 3/10/89

DST NUMBER: .

SAMPLE SOURCE: WELL - PRIVATE

LOCATION:.

OF SEC:.

TWN:.

RNG:.

FORMATION: .

DEPTH: .

DISTRIBUTION: JAHA DRILLING - FROID MT

RESISTIVITY@77.F= .495 OHM-METERS

SPECIFIC GRAVITY@77.F=1.005

H2S=NEG

TOTAL DISSOLVED SOLIDS, (CALCULATED) = 12280 MG/L

SODIUM CHLORIDE (CALCULATED) = 11000 MG/L

CATIONS ANIONS

======	=======================================	========	=======		======	========	=====
•		MEQ/L	MG/L		MEQ/L	MG/L	•
	-CALCIUM	72.7	1453	CHLORIDE	188.7	6690	
	MAGNESIUM	108.8	1324	CARBONATE	. 0	0	
	SODIUM	52.2	1200	BICARBONATE	10.5	641	
	CHROMIUM	. 0	. 1	SULFATE	19.8	950	
	IRON	.0 .	. 1	NITRATE	. 2	13	
	BARIUM	· . 0	. 0				
	POTASSIUM	. 5	19				

=====	=====		=====	
		WATER ANALYSIS PATTERN		
NA/	10.0	5	CL/	10.
CA/	10.0	7	HC03/	1.
WC /	400		C 0 1 /	
mu/	10.0	11	504/	1.
E# /	1	0	C07/	•
r t. /	, 1	· · · · · · · · · · · · · · · · · · ·	CU3/	

MEQ/L

REMARKS: CONDUCTIVITY = 6653 UMHOS/CM



# REGION VIII 999 18th Street - Suite 600 Denver, Colorado 80202-2466

OCT 23 1997

Ref: 8ENF-T

Ms. Mary J. Pavel Sonosky, Chambers, Sachse & Enderson Suite 1000 1250 Eye Street, N.W. Washington, D.C. 20005

> Re: Assiniboine and Sioux Tribes-Brine Contamination on Ft Peck Reservation.

Dear Ms. Pavel:

This letter is in response to your June 25, 1997, letter regarding concerns with the Mesa Biere A-1 located in Section 22, T29N, R51E. In your letter, you indicated there was significant contamination in the vicinity of the Mesa Biere well which had made two nearby homestead wells unusable. You stated that a recent study by the USGS demonstrated that the contamination was related to oil field brine and that the contamination could only come from the Mesa Biere A-1 well. Your letter further alleged that contamination from the Biere A-1 was a result of the improper plugging of the injection well in 1985. You requested that EPA review the plugging record and consider exercising the Emergency powers authorized under 42 U.S.C. 300i·to issue an emergency order to place a new plug in the well.

Regional staff have reviewed both the plugging report and the USGS report cited in your letter. Having reviewed the USGS report, EPA does not agree with all the conclusions reached in your letter. The USGS report identifies the extent of the contamination and the relationship between the contamination and oil field brine, but it does not target the Mesa Biere A-1 as the specific cause. Although the report indicates that underground injection may be a major source of contamination it does not identify actual pathways of contamination. It is important to note that both the Dakota and the Judith River Formation were used as injection reservoirs within the Ft Peck Reservation. In fact, the Dakota was over-pressured as a result of injection in several areas. It is the Region's opinion, based on experience in other areas and information collected during permit reviews for wells in the Ft Peck area, that the most likely potential pathway for the movement of brine out of the injection zone is improperly completed exploration and production wells. The USGS report did not focus or mention this potential pathway. The report focused principally on the source of the brine. EPA does not dispute that the injected brine could be responsible for some of the contamination. EPA does, however, dispute the conclusion that the Mesa Biere A-1 is the source of contamination.

The Region's review of the completion and plugging records for the Biere A-1 indicate that the casing strings were cemented by circulation of cement to the surface. The plugging record indicates that the well was plugged with a sufficient quantity of cement to plug the casing from top to bottom in addition to sealing the perforations. It is generally considered excessive in many situations to completely cement a wellbore. In this particular case, EPA would require that 1) a plug be placed to isolate and close the perforations; 2) a plug be placed to isolate the base of the 5 ½ inch casing; and 3) a plug be placed to close the top of the well. The presence of cement from top to bottom should eliminate any potential avenue for brine to move up the inside of the casing and out the top into the shallow alluvium. If this was happening, the presence of fluids would be evident at the surface which is not the case to our understanding. If the Tribe had data from a series of nested monitoring wells located near a particular wellbore, it might be possible to show if there was a problem associated with that well. There again, this would be a very difficult situation to establish clear evidence. Without any evidence (such as nested monitoring wells adjacent to the plugged well), however, to show that the well was not plugged or cemented as shown on the sundry notices, there is no reason to believe that the Mesa Biere is a problem.

Pinpointing the actual pathways and individual sources causing this contamination will be difficult. The Region continues to believe that past surface disposal practices, such as pits, leaks and spills were the major (if not the main) known sources of the contamination complicated by the potential for fluid movement via the numerous exploration, production and injection wells. It is important to note that the USGS report did not mention a major type of surface disposal that has occurred on the reservation. This was spillage (or perhaps deliberate dumping) of brine from trucks hauling water to disposal wells. Regional staff witnessed such activity during visits to the area with Tribal inspectors and heard accounts from Tribal inspectors of the widespread nature of such activities. The salts from this activity could still be leaching out into the surficial aquifers.

Separating the contamination associated with surface spills and pits from the potential contribution from poorly cemented and plugged wells will be difficult. In order to identify the potential pathways related to improperly completed or plugged wells, it will be necessary for the Tribe to do a records search of all wells in the general area of contamination to identify wells which might have questionable cementing across the Dakota and or the Judith River. Once again, however, pinpointing the actual pathway will be difficult without running temperature logs on a large number of wells identified as candidates.

Based on the results of our review, Region VIII does not believe that the data presented in your letter demonstrates that the Mesa Biere A-1 is the source of the brine contamination in the vicinity of the well. In fact, the drilling and completion reports on the well indicate that the cementing of the casing and the plug are adequate to prevent migration out of the injection zone. We believe that the surface spills and improperly cemented exploration, production and injection wells are the most likely source of the problem. Before the Region can take action it will be necessary for the additional information to be collected that is focused towards identification of specific pathways. This information could than be used by EPA to determine if an emergency order is warranted. Region VIII would be willing to assist the Tribe in developing a plan for

developing information on specific pathways of contamination. Although we presently have no funding to undertake such a study, the Region is willing to request that Headquarters look at sources of funding.

I hope that the results of our review has been helpful. If you have any questions regarding this letter, please contact Carol Bowden at 303-312-6485 or Paul S. Osborne at 303-312-6125.

Sincerely,

Sharon L. Kercher, Director Technical Enforcement Program Office of Enforcement, Compliance, and Environmental Justice

Bruce Kobelski, OGWDW cc: Don Olson, OECA

#### 702 229 873 RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED NOT FOR INTERNATIONAL MAIL (See Reverse)

Sent to Street and No	osio
SOIS, Hark	
P.O. State and ZIP Code	96
Postage	S
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt showing to whom and Date Delivered	
Return Receipt showing to whom, Date, and Address of Delivery	
TOTAL Postage and Fees	5
Postmark or Date	
NOV 27 2000	
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### P 702 229 871 RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED NOT FOR INTERNATIONAL MAIL (See Reverse)

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Restricted Delivery Fee	
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NOV 2 7 2000	

#### P 702 229 872 RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED NOT FOR INTERNATIONAL MAIL (See Reverse)

P.O. State and ZIP Code	9426						
Postage	s						
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#### P 702 229 870 RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED NOT FOR INTERNATIONAL MAIL

(See Reverse)

PO. State and ZIP Code	9000
Postage	5
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Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt showing to whom and Date Delivered	
Return Receipt showing to whom. Date, and Address of Delivery	
TOTAL Postage and Fees	s
Postmark or Date	

PS Form 3800, June 1985

PS

#### Oil or Gas Wells

### THE STATE OF MONTANA

P.O. BOX 217 HELENA, MT 59624

RECEIVED STATE OF MONT.

STATE OF MONT.

SILLINGS

STEZUES

PROD
------

CNTY

## REPORT OF PRODUCTION

ARM 36.22.307 ARM 36.22.1217 ARM 36.22.1242

(TO BE MADE BY PRODUCER)

12. CHECK IF AMENDED REPORT

I. PRODUCER										WELL CLASS	FICATION	
Mesa Petroleum Co.									CHECK ONE			
2. ADDRESS					7. FIELD NAME Poplar X OIL.WELL						LS	
P. O. Box 2009						ASE/UNIT NA			N	A'URAL GAS WEL	<b>د</b> 5	
3. CITY Amarillo					9. COUNTY Roosevelt 14. LEASE STAT							
4. STATE Te	xas	5. ZI	P 7918	39	10.	CHECK IF AL	DORESS CHANGE		14,	CEASE STATO	J	
S. AGENT	0 8	10 6		j		0		. [_]	1 NO WELLS PRODUCED			
SIGNATUR	EDD	SUL	u_		11. MC	NTH OFO	crober 198	<u> </u>	NO WELLS SH		UT III	
	. WELI	L DESCRIP	TION				PROD	UCTION INF	OR	MATION		
15 WELL NUMBER	IE API NO (LAST 8 DIGITS)	17 DAYS' PRODUCED	16 SEC	19 7WF	P 20 R	GE DO NOT	21 PRODUCING FORMATION	011 / CO1		23 MCF GAS # 14.73 PSIA	24 85.50	
BIERE												
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Tank Bottom			, (	0	0	LIDENOLOUICH			1			

# LOCATE WELL CORRECTLY 6601 0 19801

Let of the second

## LOG OF WELL



.... \$ \$65.

Company	Mesa Pe	troleum	Co.	Le	ase	<u>I</u>	Biere		Well No. 1-22			
Address_E	30x 2009, A	marillo,	Texas		Fie	ld (or Area	)Pop	lar ·				
The well is !	ocated 1980	) fi from	(\$\footbook)	4 660	ft fro	≭R}x	e of Sec	22				
THE WELL IS	ocated	II, IIOII	i (a) inte un	· · · · · · · · · · · · · · · · · · ·	11. IIC	, ( <del>( , )</del> , , ,	C 01 3CC		2086 KB			
Scc. 22	: T2	8N r	51E	: County	Roc	sevelt		; Elevation_	2074 GL			
	•	_		_					(D.F., R.B. or G.L.)			
	-					1	//		, 19_			
of the well	at the above di	ate.	-		t record o	/ 17	7 <i>1//</i>	my on this page	e is for the conditi			
Completed:	as oil				Signed / Minel							
	(oil well,	gas well, dry	hole)		Title	Produc	tion Sup	erintendent				
					Date_	July 7,	1970					
						F POROSIT						
					•	W; state for		•				
1.10111			th River	<u> </u>	_ From			3 Charles				
From32			ta		_ From	n 5635	to 567	8 Charles	11 B 11 W			
From48	340 to_49	992 Tyle:	r	W	_ From	n <u>· 5788</u>	10 <u>580</u>	5 Charles	"C" O & W			
From51	L55 1052	88K1bb	ey Ss.	W	_ From	11	10					
				CASIN	G RECO	RD						
Size Casing	Weight Per Ft.	Grade	Thread	Casing Set		From	To	Sacks of Cement	Cut and Pulled from			
8 5 / 8	24	J	8	741			····	465	none			
5 1/2	15	т.	8	5845				675	none			
									110116			
	1		<u>.</u>	TUBIN	G RECO	)RD	• ` •.					
	Size Tubl	ng P	Velght or Ft.	Grado	Grade Thres		d . Amount .		Ī			
	2 7			J	8	576		Perforations 791	+			
				COMPLET			·		┙,			
Rotary tool:	s were used from	om	Ω				5845					
Table tools	were used from					to to	•					
Total depth	_ <u>5845</u>	.; Plugged l	back to	<u> 5803                                     </u>	T.D.;	Open hole i						
	PERFORA	TIONS				ACIDIZED, SHOT, SAND. FRACED, CEMENTED						
Int From	erval To	Interval Amount of From To Material Used Pres										
	2.3.1											
791		Hydro-	jet	5791		2000	gals 7	172% HCL				
··	<u> </u>							***	···			
	1			<u>  </u>		· (1e	P&A show p	lugs above)				
				INITIAL	PRODUC	CTION						
/ell is pro	ducing from	Charles	"C" zone		(pool)	formation.						
P5	16b	arrels of oil	per24	h	ours_fl	owing sumpling or flow	ving)					
		Act of gas pe				embris at 1102	·#5)	. •				
·9	66barr	cls of water	r per24	<u> </u>	hours, o	r <u>65</u>	% \	W.C.				
1				(	(OVER)							